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CLAVIS AGARICINORUM:

AN

Analytical Key

TO THE

BRITISH AGARICINI,

WITH CHARACTERS OF THE GENERA AND SUBGENERA.

BY

WORTHINGTON G. SMITH, F.L.S.

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This Paper is reviewed by Berkeley in Gardeners Chronicle for 1870 p. 1221 & a Letter from Fries to W Smith also criticising the same will be found in G.C. for 1870 p. 1408.

CLAVIS AGARICINORUM:

AN ANALYTICAL KEY TO THE BRITISH AGARICINI, WITH CHARACTERS OF THE GENERA AND SUBGENERA.

By Worthington G. Smith, F.L.S.

(*Read before the Woolhope Club, Hereford, February 22nd, 1870.*)

(Plates I.–VI.)

Contents.—1. General Observations on the *Agaricini*. 2. Analytical Key. 3. Characters of the Genera and Subgenera of the *Agaricini*.

1. GENERAL OBSERVATIONS ON THE AGARICINI.

In a large group of plants like the *Agaricini*, of which we have in this country some seven hundred representatives, all more or less intimately allied, systematic arrangement is of the highest importance. During the last half-century various attempts have been made in this direction, the last and most successful being that of the illustrious Fries, in his 'Monographia Hymenomycetum Sueciæ,' published in 1856. In this work, although the author does not depart materially from the views expressed in his 'Epicrisis' (1836–38), he separates several species of *Agaricus* into two new subgenera (*Inoloma* and *Stropharia*), removes some *Tricholomata* into the genus *Paxillus*, and makes many minor alterations. Since this work was issued, Fries has continued to write on the subject, and has recently established a third new subgenus (*Pilosace*) of *Agaricus*, making thirty in all. The only work in English that gives descriptions of all the British species is the admirable 'Outlines of British Fungology,' by the Rev. M. J. Berkeley (1860),—which has proved invaluable during the last ten years to students here and in America, where Fries' works are rare. As regards the *Hymenomycetes*, Mr. Berkeley in the main adopts the views of Fries, giving descriptions of many new species.

There is perhaps no test of the value of characters so searching as an analytical key, and, as far as I am aware, no one has hitherto attempted to produce one for the Order *Agaricini*. This want I have here endeavoured to supply. It has been more or less perfectly in manuscript for the last seven years, and has always been used by me in determining new or critical Agarics. At the request of many friends, I am induced to print it; and it only remains for me to say, that the characters given are either taken from the works of Fries or Berkeley or are from my own notes and observations. When the latter have agreed with those of the above-mentioned authorities, I have not hesitated to use their very words; but I have minutely examined between five and six hundred fresh specimens, ranging over the whole Order, and in every instance I have made careful drawings of the plants and their spores, together with dissections. I have also referred to, and retained copies of, more than a thousand published plates, being nearly every species referred to by Fries or Berkeley. The accompanying outlines have been in every case drawn from nature, and the spores of each species have been uniformly enlarged seven hundred diameters with a camera-lucida.

My ideas of the value and sequence of the genera and subgenera of the *Agaricini* differ very little from those of Fries and Berkeley. Had either of these authors applied the test of an analytical key, I have little doubt that, in regard to those small differences, they would have coincided with me. The five great series of Agarics, termed, from the colour of the spores,—1, *Leucospori* (white spores); 2, *Hyporhodii* (pink spores); 3, *Dermini* (brown spores); 4, *Pratellæ* (purple spores); and 5, *Coprinarii* (black spores),—are of the first importance in discriminating species. It is remarkable that, whilst in the first group we have in this country some two hundred and fifty species, the numbers grow gradually less through the pink, brown, and purple series to black, in which latter there are only sixteen. ✗

After thus dividing the genus *Agaricus*, Fries proceeds to the subgenera; but this I consider too abrupt, as each spore-group naturally divides itself into three sections, thus:—

1. Hymenophorum distinct from the fleshy stem. L, Plate I. fig. 2.

2. Hymenophorum confluent and homogeneous with the fleshy stem. P, Plate I. fig. 5.

3. Hymenophorum confluent with, but heterogeneous from, the cartilaginous stem. Q, Plate I. fig. 7.

The arrangement of the subgenera under these sections is shown in the accompanying table (Plate VI.), and it may be considered in its

Leucospori.	~~232~~.	~~232~~	232
Hyporhodii	~~47~~	57	57
Dermini.	~~164~~	101	101
Pratellæ:–		47	47
Coprinarii		~~453~~	16
Agarics,			453

favour that it displaces from the order generally adopted only two subgenera, *Pleurotus* and *Crepidotus*; the former is usually, but apparently without reason, placed after *Mycena* or *Omphalia*, and the latter after *Galera*. *Pleurotus*, as Fries himself says, is closely allied to *Tricholoma* and *Clitocybe*; it is, in fact, only a *Tricholoma* or *Clitocybe* growing on trees and stumps instead of on the ground. Its proper position, then, undoubtedly is after *Clitocybe*. Its peculiar habit is not sufficient to separate it from this group, as we find a habit precisely the same in *Armillaria*, *Pholiota*, and *Stropharia*. For convenience, it would be well to retain the resupinate species in their present position at the end of the subgenus. In the use of this table it may seem a question whether the sequence of the species should follow the vertical or the horizontal lines; the alliance is certainly greater in the horizontal series. For instance, *Armillaria* is much nearer to *Pholiota* and *Stropharia* than to *Tricholoma*; in the former the *structure* and the *habit* are the same, the spores only are different in colour. A reference to the characters of the subgenera in part 3 of this essay will show that this is true of *all the other subgenera*. I do not, however, propose to adopt this system, though Fries has used it in arranging the *genera* of the *Agaricini*, for after *Agaricus* he places *Coprinus*, wholly disregarding the spores, and depending on the structure, which resembles *Lepiota*; then follows *Cortinarius*, resembling *Armillaria*, *Tricholoma*, and their allies (see table); then *Paxillus*, with the gills decurrent as in *Clitocybe*; and so on, in accordance with *structure* and *habit*, to the end of the Order. Had the genera of *Agaricini* been arranged after the manner of the subgenera of *Agaricus*, the sequence would have been:—White spores: *Russula, Lactarius, Hygrophorus, Nyctalis, Paxillus (Lepista), Cantharellus, Marasmius, Lentinus, Panus, Xerotus, Schizophyllum, Lenzites*. Pink and brown spores: *Bolbitius, Cortinarius, Paxillus (Tapinea)*. Black spores: *Gomphidius, Coprinus*. It is singular that none of these genera have purple spores, analogous with the *Pratellæ*. So little value does Fries attach to the colour of the spores amongst these genera, that some of the species of his *Paxillus* have *white* spores, others *red*. The genus *Marasmius* is so near the subgenus of *Agaricus*, *Collybia*, that it is sometimes very difficult to determine to which group some species belong. Fries himself is often very uncertain; with some species he has recently put the common *Agaricus (Tricholoma) personatus*, Fr., into the genus *Paxillus*, partly on account of the gills separating from the hymenophorum. See remarks under *Tricholoma*, *Lepista*, and *Paxillus*.

I. LEUCOSPORI, *White-spored Agarics* (PLATE I.).—Without doubt the species bearing white spores are much higher in type than the plants producing coloured spores. Most of the former are firm, and many persistent, whilst as we approach the black-spored Agarics, through the pink, brown, and purple series, there is a greater tendency to deliquesce till we reach the small, ephemeral species of *Coprini*, whose entire lives endure but one hour, and whose whole structure may be destroyed by a breath. The spores of the *Leucospori* are mostly oval in shape, sometimes nearly round (in *Pleurotus* they are usually elongated ovals), generally very regular in shape, but sometimes spinulose (showing an affinity to *Russula* and other genera). The spores vary in size; the *Leucospori* producing the largest as well as the smallest known spores; as a rule they are *small* (and thus opposed to the black-spored groups, where, as a rule, they are *large*), generally white, but sometimes dingy, or with a suggestion of yellow, showing an affinity to *Cantharellus*, etc., or pink, and pointing to *Lentinus*. It is worthy of note that no other Fungus is analogous with the species of the "ringed" section of *Amanita;* it stands quite alone in possessing a volva *and ring*. It is also remarkable that, as a rule, none of the *Leucospori* grow on dung or in rank places, whilst in the darker and black-spored groups these habitats are the rule.

II. HYPORHODII, *Pink-spored Agarics* (PLATE II.).—There is not one quarter so many Agarics bearing pink or salmon-coloured as white spores. The size of the spores varies greatly. A few are very small, others equally large (see Plate II.), whilst the majority are remarkably irregular in shape, resembling the fragments of granite seen in the roads. Some of the species are edible, as in *Clitopilus* (analogous with the white-spored edible species of *Clitocybe*), whilst others are poisonous, as in *Entoloma*, reminding us of such dangerous species of *Tricholoma* as *A. sulfureus*, Bull, etc.

In this section blank places for unrepresented subgenera become apparent. Were the study better prosecuted, and the Agarics from all the world known, most, if not all, these species would probably be filled in. The genus *Pluteus* occupies the only space unrepresented amongst the *Leucospori*, Plate I., but it is exceedingly probable that white-spored Agarics exist with gills perfectly *free* from the stem, and without a ring, though at present none are described.* Weight is added to this opinion by the fact that Fries has lately established a subgenus (*Pilosace*) amongst the *Pratellæ* with these very characters (Plate IV.). Till then *Pluteus* stood quite alone in structure.

Hitherto no subgenus has been recognized amongst the *Hyporhodii* analogous to *Lepiota* among the *Leucospori*, but such a group really exists. In the 'Commentario della Società Crittogamologica Italiana,' No. 2, September, 1861, there is an Agaric described as a doubtful *Pluteus* under the name of "*A. (Pluteus ?) xanthogrammus*, Ces." It greatly resembles *A. (Armillaria) mucidus*, Fr., in aspect, and the stem is furnished with a ring; so that it fills up the vacant space in the *Hyporhodii*. I propose for it the subgeneric name of *Chamæota*. To it also belongs *A. cretaceus*, Fr., *A. echinatus*, Roth, etc. *A. cretaceus*, Fr., should not be referred to as intermediate between *Lepiota* and *Psalliota*. It is singular that, with these unrecognized exceptions, not a single rosy-spored Agaric is described as possessing a stem furnished with a true ring, whilst in the *Pratellæ*, *every species* in every subgenus has a ring more or less manifest.

Some species of the subgenus *Crepidotus* must be removed to the space in the *Hyporhodii*, analogous to *Pleurotus*, as their spores are rosy, and not brown. To this new and natural group I give the name *Claudopus*. Mr. Berkeley's species of *Pleurotus* (?) with *pink spores* belongs to this subgenus. When Mr. Berkeley's book was published, ten years ago, no species of the subgenus *Eccilia* were known to be British; now at least three are on our lists.

III. Dermini, *Brown-spored Agarics* (Plate III.).—In the *Dermini*, the blanks for unrepresented subgenera are more numerous. There are no British species with the hymenophorum free from the stem; but in *Agaricus (Pholiota) tersus*, Fr., it is so, and the stem is furnished with a fugitive ring, showing a clear analogy between this species and *Lepiota* (Plate I.), *Chamæota* (Plate II.), and *Psalliota* (Plate IV.); neither are any brown-spored Agarics furnished with a volva, unless, indeed, a trace of such a structure is indicated in *Cortinarius* (for *Cortinarius* is certainly allied to *Pholiota* and *Hebeloma*), where many of the species have an adnate volva and arachnoid ring.

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* Since this paper has been in print, I have received from Mr. Charles H. Peck, of Albany, New York (under date March 30, 1870), an interesting note regarding a critical American Agaric. If his description prove correct, the plant he mentions exactly fills the only vacant space amongst the *Leucospori*. He says, in answer to my inquiries, "I have found what I have classed with the *Lepiotæ*, a viscid, cæspitose species, *growing on old stumps close to the ground*, having no trace of veil or annulus, a circumstance in which it does not agree with other species of that subgenus so far as known to me." The *habitat* of this Agaric, leaving out its structural characters, does not agree with any species of *Lepiota*, but is in correspondence with that of *Pluteus*, where the annulus is also absent, and which is probably one of its analogues. The habitats correspond in other analogous subgenera, as in *Lepiota* and *Psalliota*; *Armillaria*, *Pholiota*, and *Stropharia*, etc.

Remarks on Fries' new subgenus *Inocybe* will be found under *Hebeloma*. This latter subgenus resembles *Cortinarius* in many respects, even to the lesser groups, into which both are divided, depending on the character of the pileus, whether it is slimy, moist, or squamulose.

The subgenera *Flammula* and *Naucoria* are in a most unsatisfactory condition. They require thorough revision. The species of *Naucoria*, with decurrent gills and depressed pilei (*A. furfuraceus*, P., etc.) I remove to the next position, as analogous in every respect to *Omphalia* and *Eccilia*, and describe under the name *Tubaria*.

IV. PRATELLÆ, *Purple-spored Agarics* (PLATE IV.).—The affinities and characters of all the subgenera are referred to under their respective headings. I have already said that *Pilosace* is not British. As *A. physaloides*, Bull, has decurrent gills and a pileus at length depressed, I remove it to the space corresponding amongst the *Pratellæ* to *Omphalia* and *Eccilia* amongst the white- and pink-spored species; and name the subgenus *Deconica*.

V. COPRINARII, *Black-spored Agarics* (PLATE V.).—There is little to be said about these in addition to the observations under the respective subgenera. *Psathyrella* is very close to *Coprinus*, more so than *Panæolus*. In the *Coprinarii* the unrepresented spaces are very numerous. I am unable to offer any suggestion as to filling them, unless by cutting up the genus *Coprinus*, the species of which genus differ exceedingly in many points, especially in the attachment of the gills to the stem. *C. comatus*, Fr., is clearly allied to *Lepiota;* the habit, scaly pileus, moveable ring, change of colour when cut, edible qualities, etc., all point in this direction. The characters of some of the others, as those growing on wood, etc., indicate other affinities; but till Agarics are better known these spaces must remain unoccupied.

2. ANALYTICAL KEY TO THE AGARICINI.

In using the following key, the first and most important point to be determined in naming an Agaric is to ascertain the colour of the spores. The specimens used for study should always be perfectly fresh and, if possible, young, as in many species the characters, especially of the veil and colour, are evanescent. To beginners the habitat also will be found of considerable importance.* The genera are printed in italics, and the subgenera in Roman type. The numbers prefixed to the subgenera will enable the reader to refer at once to the Plates, where the numbers correspond.

I. Spores white, or very slightly tinted.—*Leucospori.*
* Plant fleshy, more or less firm, putrescent (neither deliquescent nor coriaceous).
† Hymenophorum free.
Pileus bearing warts or patches free from the cuticle . . . . 1. AMANITA.
Pileus scaly, scales concrete with the cuticle . 2. LEPIOTA.
† Hymenophorum confluent.
‡ Without cartilaginous bark.
§ Stem central.
|| With a ring . . . . 3. ARMILLARIA.
|| Ringless.
Gills sinuate . . . . 4. TRICHOLOMA.
Gills decurrent.
Separating from the hymenophorum 5. *LEPISTA.*
Not separating from the hymenophorum.
Edge acute . . . . 5. CLITOCYBE.
Edge swollen . . . . 11. *CANTHARELLUS.*
Gills adnate.
Plants parasitic on other Agarics . 12. *NYCTALIS.*
Not parasitic.
Milky . . . . 9. *LACTARIUS.*
Not milky.
Rigid and brittle . . . . . 10. *RUSSULA.*
Waxy . . . . 7. *HYGROPHORUS.*
§ Stem lateral or absent . . . . 6. PLEUROTUS.
‡ With a cartilaginous bark.
Gills decurrent . . . . 9. OMPHALIA.
Gills not decurrent.

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* Being anxious to procure fresh specimens of new and rare species for an illustrated work on the British Hymenomycetes now in hand, I append my address. Each Fungus should be wrapped separately in thin paper to prevent bruising. Under three-quarters of a pound in weight will travel by *sample post* for 3*d*. if no letter is enclosed.
12, *North Grove West, Mildmay Park, London.*

Margin at first involute . . . . 7. Collybia.
Margin at first straight . . . . 8. Mycena.
* Plant tough, coriaceous, or woody.
† Stem central.
Gills simple . . . . 13. *MARASMIUS.*
Gills branched . . . . 16. *XEROTUS.*
† Stem lateral or wanting.
Gills toothed . . . . 14. *LENTINUS.*
Gills not toothed . . . . 15. *PANUS.*
Gills channelled longitudinally, or crisped . 17. *TROGIA.*
Gills splitting longitudinally . . . . 18. *SCHIZOPHYLLUM.*
Gills anastomosing . . . . 19. *LENZITES.*

II. Spores rosy or salmon-colour.—*Hyporhodii.*
* Without cartilaginous bark.
† Hymenophorum free.
‡ With a volva . . . . 10. Volvaria.
‡ Without a volva.
With a ring . . . . 11. Chamæota.
Ringless . . . . 12. Pluteus.
† Hymenophorum confluent.
‡ Stem central.
Gills adnate or sinuate . . . . 13. Entoloma.
Gills decurrent . . . . 14. Clitopilus.
‡ Stem lateral or absent . . . . 15. Claudopus.
* With cartilaginous bark.
Gills decurrent . . . . 18. Eccilia.
Gills not decurrent.
Gills subdeliquescent . . . . 3. *BOLBITIUS.*
Pileus torn into scales . . . . 16. Leptonia.
Pileus papillose, subcampanulate.
Gills membranaceous, persistent . . . . 17. Nolanea.

III. Spores brown, sometimes reddish or yellowish-brown.—*Dermini.*
* Without cartilaginous bark.
† Stem central.
‡ With a ring.
Ring continuous . . . . 19. Pholiota.
Ring arachnoid, filamentous or evanescent.
Gills adnate, terrestrial . . . . 4. *CORTINARIUS.*
Gills decurrent or acutely adnate, generally epiphytal . . . . 21. Flammula.
‡ Without a ring.
Gills adhering to the hymenophorum, and sinuate . . . . 20. Hebeloma.
Gills separating from the hymenophorum, and decurrent . . . . 6. *PAXILLUS.*
† Stem lateral or absent . . . . 22. Crepidotus.

- * With cartilaginous bark.
  - Gills decurrent . . . . 25. TUBARIA.
  - Gills not decurrent.
    - Margin of pileus at first incurved . . . . 23. NAUCORIA.
    - Margin of pileus always straight . . . . . 24. GALERA.

IV. Spores purple, sometimes brownish-purple, dark purple or dark brown.—*Pratellæ.*

- * Without cartilaginous bark.
  - † Hymenophorum free.
    - ‡ With a ring . . . . 26. PSALLIOTA.
    - ‡ Ringless . . . . 27. PILOSACE.
  - † Hymenophorum confluent.
    - Veil normally ring-shaped on the stem . . . 28. STROPHARIA.
    - Veil normally adhering to the margin of pileus . . . . 29. HYPHOLOMA.
- * With cartilaginous bark.
  - Gills decurrent . . . . 32. DECONICA.
  - Gills not decurrent.
    - Margin of pileus at first incurved . . . . 30. PSILOCYBE.
    - Margin of pileus at first straight . . . . . 31. PSATHYRA.

V. Spores black, or nearly so.—*Coprinarii.*

- Gills deliquescent . . . . 2. *COPRINUS.*
- Gills not deliquescent.
  - Decurrent . . . . 8. *GOMPHIDIUS.*
  - Not decurrent.
    - Pileus striate, gills not variegated . . . 34. PSATHYRELLA.
    - Pileus not striate, gills variegated . . . 33. PANÆOLUS.

3. CHARACTERS OF THE GENERA AND SUBGENERA OF THE AGARICINI.

ORDER AGARICINI.—Hymenium inferior, spread over easily-divisible gills or plates radiating from a centre or stem, which may be either simple or branched.

Genus I. AGARICUS, Linn. Syst. Nat. (1735).—Spores of various colours; gills membranaceous, persistent, with an acute edge; trama floccose, confluent with the inferior hymenium. Fleshy fungi, putrifying, and not reviving when once dried, hence differing from such genera as are deliquescent, coriaceous, or woody.

Series I. LEUCOSPORI, Fr. Epicr. p. 3.—*Spores white.*

Subgenus 1. AMANITA, Persoon, Syn. Meth. Fung. p. 246 (Plate I. fig. 1).—Veil universal, at first completely enveloping the young plant, distinct and free from the cuticle of the pileus; pileus convex, then expanded, not decidedly fleshy; stem distinct from the hymenophorum,* ringed or ringless, furnished with a volva, free and lax, connate with the base, or friable and nearly obsolete; gills free from the stem. —Hab. On the ground, mostly in woods and uncultivated places.

This subgenus is remarkable for the great development of the veil, which at first entirely envelopes the young plant in a thick clothy wrapper; as the fungus reaches maturity, the veil is naturally ruptured, and part of it remains in scattered and easily removed patches on the pileus (B), and part forms a more or less complete cup or volva at the base (C); when there are no fragments on the pileus, the veil has been ruptured in one place, where the whole mass remains; this is often the case in *Agaricus phalloides*, Fr. Some of the species have the stem furnished with a ring (D), which is part of the veil, whilst three species are ringless (or more properly, *the ring is adherent to the stem*). In some species the veil is thick and greatly developed, whilst in others it is thin and friable, and both volva and patches are evanescent; the higher forms of *Amanita* stand alone; from the stem being furnished with a *volva* and *ring*. Some of the species are edible, others highly poisonous.

Amanita corresponds with the pink-spored *Volvaria*, Plate II. fig. 10. The species figured is *Agaricus (Amanita) muscarius*, L., spores ·00032″ × ·00025″.

Subgenus 2. Lepiota, Fr. Syst. Myc. vol. i. p. 19 (Plate I. fig. 2). —Veil universal, and concrete with the cuticle of the pileus breaking up in the form of scales (F); pileus never compact, often very thin, the flesh always soft and threadlike, and not only distinct from the stem, but often separated above into a peculiar cup; stem distinct from the hymenophorum,* generally hollow, full of threadlike fibres, rather subcartilaginous than fleshy, different in texture from the flesh of the pileus (hence it is easily removed, leaving a cup or socket at its point of juncture with the pileus E), furnished with an annulus, which is at first continuous with the cuticle of the pileus, often moveable, sometimes evanescent; volva none; gills free, hence not sinuate or decurrent.—Hab. On the ground, mostly in rich grassy places, and more often in fields than woods.

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* Some exceptions may be found to nearly every character amongst Agarics, and this one of a free hymenophorum has two exceptions, one in a variety of *Agaricus (Lepiota) granulosus*, Batsch, where the gills are *adnate* (or even have a decurrent tooth), and the other in an *Amanita* which I have described under the name of *Agaricus adnatus*, where the same condition obtains. The presence of the annulus, too, is not without exception; it is often fugitive, and must then be sought for in young specimens; and it is sometimes absent from the first in *Agaricus (Armillaria) melleus*, Vahl.

Lepiota corresponds in structure with *Chamæota*, Plate II. fig. 11, and *Psalliota*, Plate IV. fig. 26; the sections of both subgenera change colour, and they have a common habitat. *Coprinus* is allied to this subgenus. Several species of *Lepiota*, as *A. clypeolarius*, Bull; *A. cepæstipes*, Sow., and *A. cristatus*, Fr., appear in hothouses all the year round. *Lepiota* is readily recognized amongst white-spored Agarics by its *free gills*, annulated stem *without a volva*, and generally scaly pileus. Nearly all are autumnal and edible. The species figured is *Agaricus (Lepiota) procerus*, Scop. Spores ·0006"×·00035."

Subgenus 3. Armillaria, Fr. Syst. Myc. vol. i. p. 26 (Plate I. fig. 3).—Veil partial, in infancy attaching the edge of pileus to the upper part of stem, and often forming flocci on the pileus (G); pileus generally fleshy; stem homogeneous and confluent with the hymenophorum, furnished with a ring (sometimes absent in abnormal specimens), below the ring the veil is concrete with the stem, often forming scales upon it similar to the scurfy scales on the pileus; gills broadly touching or running down the stem.—Hab. On the ground or on stumps of trees.

This subgenus corresponds with *Pholiota*, Plate III. fig. 19, and *Stropharia*, Plate IV. fig. 28; it is also allied to *Tricholoma*, *Clitocybe*, and *Collybia*, amongst the white-spored Agarics. Fries subdivides *Armillaria* into groups, depending on their relations to one or other of these subgenera. The species figured is *Agaricus (Armillaria) melleus*, Vahl. Spores ·00035"×·00023".

Subgenus 4. Tricholoma, Fr. Syst. Mye. vol. i. p. 36 (Plate I. fig. 4).—Veil absent, or if present, floccose and adhering to the margin of pileus; in *A. acerbus*, Bull., the margin of pileus extends beyond the gills, exactly as in *A. separatus*, L. (Plate V. fig. 33); pileus generally fleshy; stem homogeneous and confluent with the hymenophorum, central and subfleshy, without either ring or volva, and with no distinct barklike coat; gills sinuate, *i. e.* with a sinus (or small sudden curve) near the stem (H).—Hab. All the species grow on the ground, the larger in hilly woods, and the smaller in pastures.

Tricholoma corresponds with *Entoloma*, Plate II. fig. 13; *Hebeloma*, Plate III. fig. 20; *Hypholoma*, Plate IV. fig. 29; and *Panæolus*, Plate V. fig. 33. Most of the species grow in the autumn, some very late, but a group of which *A. gambosus*, Fr., is the type, is strictly *vernal*, and the species constituting it have long been considered special delicacies; the greater number of the remaining species are also edible, and have a pleasant odour like that of new flour, but a few are rank and suspicious, of which *A. saponaceus*, Fr., is an example. This very large subgenus has been subdivided by Fries in the following manner:—1. Pileus viscid. 2. Pileus floccu-lose. 3. Pileus rigid. 4. Pileus silky. 5. Pileus spotted or minutely cracked. 6. Pileus spongy. 7. Pileus hygrophanous. In *Hygrophorus*, *Lactarius*, and *Russula*, the general structure is much the same as in *Tricholoma*, but they form well-marked genera. *Hygrophorus* is distinguished by its *waxy* nature; *Lactarius* by its *milky* gills and flesh; and *Russula*, by its rigid brittle gills generally in one series and vesiculose flesh. The species figured is *Agaricus (Tricholoma) terreus*, Schæff. Spores ·0002″ × ·00013″.

Subgenus 5. CLITOCYBE, Fr. Syst. Myc. vol. i. p. 78 (Plate I. fig. 5).—Pileus, generally fleshy in the disk, obtuse, plane or depressed, hygrophanous or not hygrophanous; stem confluent and homogeneous with the hymenophorum, elastic, with an outer coat, covered with minute fibres; gills acutely adnate, or decurrent. The fibrillose outer coat of *Clitocybe* (and sometimes of *Tricholoma* and *Pleurotus*) must not be confounded with the truly fibrous bark of *Collybia*, *Mycena*, *Omphalia*, and their analogues.—HAB. All are terrestrial.

Clilocybe corresponds with *Clitopilus*, Plate II. fig. 14, and *Flammula*, Plate III. fig. 21. The species are generally small, though some are very large; many possess an agreeable odour, but few only are known to be edible. Most of the species appear late in the autumn or in early winter. In *Cantharellus* the gills are strongly decurrent, but they are reduced to thick veins or folds. The species of *Hygrophori*, with decurrent gills, can be easily separated from *Clilocybe*, by their waxy nature; and *Lepista* is known by the decurrent gills separating from the hymenophorum. The species figured is *Agaricus (Clilocybe) geolrupus*, Bull. Spores ·00028″ × ·0002″, they sometimes have a slight tendency to become echinate; spines are greatly developed in the var. *subinvolulus*, Batsch, a single spore of which is shown at J.

Subgenus 6. PLEUROTUS, Fr. Epicr. p. 129 (Plate I. fig. 6).—Veil evanescent, or none; pileus fleshy in the larger species, with a smooth margin or ragged from the remains of the veil; substance either compact, spongy, slightly fleshy, or membranaceous; stem mostly lateral (or wanting), when present, confluent and homogeneous with the hymenophorum; gills with a sinus or broadly decurrent tooth.—HAB. Most of the species grow on wood, a few only on the ground.

Pleurotus corresponds with *Claudopus*, Plate II. fig. 15, and *Crepidotus*, Plate III. fig. 22. The species are large, handsome, and polymorphic, but some are small and resupinate; they generally appear late in the year, and return, year after year, to the same habitat more frequently than terrestrial fungi: all are harmless and some edible. All become putrid when old, and never coriaceous or woody; in this they differ from *Lentinus*, *Panus*, *Xerotus*, *Trogia*, *Schizophyllum*, and *Lenzites*. The species figured is *Agaricus (Pleurotus) spongiosus*, Fr. Spores ·0004″ × ·00018″. The elongated shape is characteristic of many species of this subgenus.

Subgenus 7. COLLYBIA, Fr. Epicr. p. 81 (Plate I. fig. 7).—Pileus at first convex, with an involute margin; stem with a cartilaginous bark, of a different substance from the hymenophorum, but confluent with it; gills adnate or slightly attached (not decurrent).—HAB. Most of the species are epiphytal. Usually small and tough, lasting far into the winter; few only are known to be edible, as *A. fusipes*, Bull, *A. esculentus*, Wulf., etc. *Marasmius* is closely allied to *Collybia*.

Collybia corresponds with *Leptonia*, Plate II. fig. 16; *Naucoria*, Plate III. fig. 23; and *Psilocybe*, Plate IV. fig. 30. The species figured is *A. (Collybia) fusipes*, Bull. Spores ·0002″ × ·00013″; the small section shows young plant of *A. (Collybia) maculatus*, A. and S., to show involute margin of pileus.

Subgenus 8. MYCENA, Fr. Syst. Myc. vol. i. p. 140 (Plate I. fig. 8).—Pileus more or less membranaceous, generally striate, with the margin always straight, and at first pressed to the stem (never involute), expanded, campanulate, and generally umbonate (not depressed as in *Omphalia*); stem externally cartilaginous, tubular, not stuffed when young, confluent with the hymenophorum, but heterogeneous from it; gills never decurrent, though some species have a broad sinus near the stem.—HAB. Mostly epiphytal.

Most of the species are small, beautiful, and inodorous, but some which have a strong alkaline odour are probably poisonous; none are known to be edible. They appear after rain in summer and autumn.

Mycena corresponds with *Nolanea*, Plate II. fig. 17; *Galera*, Plate III. fig. 24; *Psathyra*, Plate IV. fig. 31; and *Psathyrella*, Plate V. fig. 34. The species figured is *Agaricus (Mycena) polygrammus*, Bull. Spores ·00035″ × ·00026″. Two forms of a young *A. (Mycena) epipterygius*, Scop., are given on the plate, to show the margin of pileus adpressed to the stem.

Fries, in his 'Monographia Hymenomycetum,' alters the sequence of *Mycena* and *Omphalia* as given in his 'Epicrisis,' and places *Omphalia* first. The arrangement of the 'Epicrisis' seems to me more natural, as *Mycena* is certainly intermediate between *Collybia* and *Omphalia*, the gills being adnate in the former and decurrent in the latter.

Subgenus 9. OMPHALIA, Fr. Epicr. p. 119 (Plate I. fig. 9).—Pileus generally from the first umbilicate, afterwards funnel-shaped, almost always membranaceous or submembranaceous and hygrophanous, margin incurved or straight; stem cartilaginous and tubular, when young often stuffed, confluent with the hymenophorum, but heterogeneous from it; gills generally truly and considerably decurrent.—HAB. Generally epiphytal, and mostly peculiar to hilly regions, preferring a damp, woody situation, and a rainy climate.

Omphalia corresponds with *Eccilia*, Plate II. fig. 18; *Tubaria*, Plate III. fig. 25; and *Deconica*, Plate IV. fig. 32. The species, though small, are many of them beautiful; their properties are not known, and they endure changes of temperature like the hygrophanous species of *Clitocybe*. *Omphalia* is naturally divided into two groups, one, *Collybariæ*, approaching *Collybia* in the involute margin of the pileus, but differing in the deeply decurrent gills and umbilicus, and the other, *Mycenariæ*, pointing to *Mycena* in the straight margin of the pileus, at first adpressed to the stem, but differing in the nature of the gills and pileus. The species included in the last three subgenera might more conveniently be classed in four, thus:—Margin of pileus at first incurved, gills adnate,—*Collybia*; margin of pileus at first incurved, gills decurrent,—*Omphalia (Collybariæ)*; margin of pileus at first straight, gills adnate or sinuate,—*Mycena*; margin of pileus at first straight, gills decurrent,—*Omphalia (Mycenariæ)*. Under this arrangement various analogous species amongst the *Hyporhodii*, *Dermini*, and *Pratellæ*, now so unsatisfactorily placed in such subgenera as *Naucoria*, etc., would fall naturally into proper positions. The species figured is *A. (Omphalia) fibula*, Bull. Spores ·00013″ × ·0008″.

Series II. Hyporhodii, Fr. Epicr. p. 138.—*Spores pink or salmon-colour.*

Subgenus 10. Volvaria, Fr. Syst. Myc. vol. i. p. 277 (Plate II. fig. 10).—Spores regular in shape, oval or pip-shaped, pink or salmon-colour; veil universal, forming a perfect volva (a and c), distinct from the cuticle of pileus; stem distinct from the hymenophorum; gills free, rounded behind, at first white, then pink, soft, liquescent.—Hab. Gardens and hot-houses, and in woods and on manured ground, growing on rotten wood and damp ground; one species is parasitic on a white-spored Agaric, *Agaricus nebularis*, Batsch.

The different species of *Volvaria* are very closely allied; some appear in spring and early summer, others later in the year; they are almost all tasteless, and none are known to be edible. *Volvaria* corresponds with *Amanita* (Plate I. fig. 1). Their peculiar habitat, viz. rotten wood, manured ground, etc., and their semiliquescent gills show some affinity with *Coprinus* and *Bolbitius*, but the species of the latter genera have no true volva, and differ in several other respects.

The specimen figured is *Agaricus (Volvaria) volvaceus*, Bull. Spores ·0002″ × ·00013″.

Subgenus 11. Chamæota, subgen. nov. sp. *Psalliotæ*, Fr. (Plate II. fig. 11).—Spores pale rose; stem distinct from the hymenophorum, furnished with a fugitive ring; gills free.—Hab. On the ground, or on decayed wood.

Corresponds in structure with *Lepiota* (Plate I. fig. 2), and *Psalliota* (Plate IV. fig. 26). The species described under the name of "*A. (Pluteus?) xanthogrammus*, Ces.," in 'Commentario della Società Crittogamologica Italiana,' n. 2, September, 1861, appears to exactly fill this place. From my examination of *A. (Psalliota) cretaceus*, Fr., and *A. (Psalliota) echinatus*, Fr., I am disposed to place them also here. The species figured is *A. (Chamæota) xanthogrammus*, Ces.

Subgenus 12. Pluteus, Fr. Epicr. p. 140 (Plate II. fig. 12).—Spores generally regular in shape, but in some species approaching the irregularity of *Entoloma*, pink or salmon-colour, more or less bright; some approaching in colour the spores of Genus 6, *Paxillus*, others Subgenus 21, *Flammula;* veil none; pileus of the same nature with the stem and gills, smooth, silky, or wrinkled; stem ringless and without a volva, distinct from the hymenophorum; gills free, at first white, then yellowish, at length pink, very crowded, almost cohering, sometimes subliquescent.—Hab. The species almost always grow on, or *close to*, the trunks of trees.

The characters of this subgenus agree with those of *Volvaria*, with the exception of the volva, which is absent in *Pluteus*. Fries appears to think it is doubtful whether the pellicle of the pileus, always fibrous, flocculose, or pruinose, should not be considered as an universal concrete veil, which would give an analogy with *Lepiota*, Plate I. fig. 2. He has recently established a new subgenus of purple-spored Agarics (see Plate IV.) under the name of *Pilosace*, with (excepting the spores) precisely the characters of *Pluteus*. *Pluteus* and this new subgenus *Pilosace* are undoubtedly allied, but, strangely enough, they have no known representatives amongst either the white- or brown-spored groups. The species of *Pluteus* appear in spring, early summer, or late in the autumn. They are tasteless, and none edible. The species figured is *Agaricus (Pluteus) cervinus*, Schæff. Spores ·00023″ × ·00018″.

Subgenus 13. ENTOLOMA, Fr. Epicr. p. 143 (Plate II. fig. 13).—Spores extremely irregular in shape, salmon colour, pink, or more or less approaching bright red or brown; veil, as in *Tricholoma* and *Hebeloma*, "potential rather than definite;" pileus, with a margin at first incurved, never at first umbilicate, fleshy or thin according to the species, viscid, smooth, hygrophanous, dry, silky, or flocculose; stem fleshy-fibrous, sometimes almost waxy, continuous with the hymenophorum, and homogeneous with it; gills sinuated, as in *Tricholoma*, etc., almost free, or more or less adnate, sometimes parting from the stem.—HAB. All are terrestrial.

Allied to *Tricholoma*, Plate I. fig. 4, but, with few exceptions, the species of *Entoloma* are much thinner and often brittle. Many possess the odour of new flour, but none are edible, and some highly poisonous. They appear in summer after heavy rains. Besides corresponding with *Tricholoma*, *Entoloma* agrees in structure with *Hebeloma*, Plate III. fig. 20, and *Hypholoma*, Plate IV. fig. 29. The species figured is *Agaricus (Entoloma) sinuatus*, Fr. (*A. fertilis* of Berkeley's 'Outlines'). Average size of spores ·00035″ × ·00025″.

Subgenus 14. CLITOPILUS, Fr. Epicr. p. 148 (Plate II. fig. 14).—Spores salmon colour, in some species very pale, almost white, pip-shaped, somewhat irregular spheres or altogether irregular as in *Entoloma*, fig. 13; pileus viscid, smooth or pruinose, dull white, cinereous or brownish, generally fleshy; stem fleshy or fibrous, confluent with the hymenophorum and homogeneous with it; gills decurrent, never sinuated.—HAB. All are terrestrial.

With the exception of the gills, most of the characters correspond with *Entoloma.* The odour of the species is more or less mealy; some, however, are oily, some tasteless, others edible. *Clitopilus* is closely allied to *Clitocybe*, Plate I. fig. 5, and differs from *Entoloma* precisely as *Clitocybe* differs from *Tricholoma*. *Clitopilus* agrees more or less with *Flammula*, Plate III. fig. 21. The species figured is *Agaricus (Clitopilus) prunulus*, Pers. Spores ·00045″ × ·0002″.

Subgenus 15. CLAUDOPUS, subgen. nov. sp. *Pleuroti* and *Crepidoli*, Fr. (Plate II. fig. 15).—Spores pink, or pale lilac; stem lateral or none, when present confluent and homogeneous with the hymenophorum; gills sinuate or decurrent.—HAB. on wood or the ground.

Claudopus corresponds with *Pleurotus*, Plate I. fig. 6, and *Crepidolus*, Plate III. fig. 22, only differing in the colour of the spores. Mr. Berkeley's fine species, *Agaricus (Pleurotus) euosmus, A. (Crepidotus) byssisedus*, P., and other species fall naturally into this subgenus. The spores of *A. prunulus*, Pers., are often quite as pale in colour as those of *A. euosmus*, B., and those of *A. popinalis*, Fr., are hardly to be distinguished from white. The species figured is *A. (Claudopus) euosmus*, B. Spores ·0003″ × ·00013″.

Subgenus 16. LEPTONIA, Fr. Syst. Myc. vol. i. p. 201 (Plate II. fig. 16).—Spores salmon-colour, irregular in shape; pileus less campanulate than *Nolanea*, and never truly fleshy, cuticle always torn into scales, disk umbilicate, and often darker than margin, which is at first incurved; stem rigid, with a cartilaginous bark, often dark blue, confluent with the hymenophorum, but heterogeneous from it; gills not decurrent, but often with a small tooth or sinus, separating from the stem, variable in colour, at first dirty white, yellowish, greenish, grey, or blue.—HAB. Dry hills, and sometimes marshy places, in July and August.

Most of the species grow in clusters, are small, and of an elegant colour; most common in rainy seasons. Structurally the same as *Collybia*, Plate I. fig. 7; *Naucoria*, Plate III. fig. 23; and *Psilocybe*, Plate IV. fig. 30; and bears the same relationship to *Clitopilus* as *Collybia* to *Clitocybe.* The species figured is *Agaricus (Leptonia) incanus*, Fr. Average size of spores ·00034″. The small sketch, showing incurved margin of pileus, is *A. (Leptonia) chalybæus*, P.

Subgenus 17. NOLANEA, Fr. Syst. Myc. vol. i. p. 204 (Plate II. fig. 17).—Spores salmon-colour; pileus submembranaceous (as in

Leptonia and *Eccilia*), subcampanulate, and papillose, not umbilicate, at first straight and pressed to the stem, not incurved as in *Leptonia;* stem cartilaginous, fistulose, sometimes stuffed,confluent with, buthetero geneous from the hymenophorum ; gills not decurrent.—HAB. Generally terrestrial, growing on grassy hills, and in wet places inwoods.

The species are thin, slender, inodorous, and brittle (but some very tenacious), growing in summer and autumn. *Nolanea* corresponds with *Mycena*, Plate I. fig. 8; *Galera*, Plate III. fig. 24; *Psathyra*, Plate IV. fig. 31; and *Psathyrella*, Plate V. fig. 34. Fries, in his 'Monographia,' has not reversed the sequence of *Nolanea* and *Eccilia* to make them accord with *Omphalia* and *Mycena* amongst the *Leucospori*. *Leptonia*, *Nolanea*, and *Eccilia* are very nearly allied by many characters. The species figured is *Agaricus (Nolanea) pascuus*, P. Average size of spores ·0003″.

Subgenus 18. ECCILIA, Fr. Syst. Myc. vol. i. p. 207 (Plate II. fig. 18).—Spores salmon-colour; pileus generally umbilicate, disk homogeneous, margin at first incurved, as in *Leptonia;* stem hollow, confluent with, but heterogeneous from the hymenophorum; gills truly decurrent.

Corresponds with *Omphalia*, Plate I. fig. 9; *Tubaria*, Plate III. fig. 25, and *Deconica*, Plate IV. fig. 32. The species figured is *Agaricus (Eccilia) Parkensis*, Fr., for specimens of which I am indebted to Mr. C. E. Broome. Average size of spores ·00027″.

Series III. DERMINI, Fr. Epicr. p. 160.—*Spores various shades of reddish-brown, brown, red, or yellowish-brown.*

Subgenus 19. PHOLIOTA, Fr. Syst. Myc. vol. i. p. 240 (Plate III. fig. 19).—Spores sepia-brown, bright yellowish-brown, or light red; stem confluent and homogeneous with the hymenophorum, furnished with a ring, persistent, friable, or fugacious.—HAB. All the British species grow on stumps except five, which grow on the ground principally in damp, mossy places.

A few species are said to be edible, but they cannot be recommended. *Pholiota* is analogous to *Armillaria*, Plate I. fig. 3, and *Stropharia*, Plate IV. fig. 28. There is some danger of confusing *Pholiotæ* with *Cortinarii*, but attention must be paid to the spidery veil and the *rust-of-iron* tint of the spores in the latter, and the habitat of the former. The species figured is *Agaricus (Pholiota) squarrosus*, Müll. Spores ·00022″ × ·00017″.

Subgenus 20. HEBELOMA, Fr. Syst. Myc. vol. i. p. 249; with which I include *Inocybe*, Fr. Monogr. Hymen. Succ. vol. i. p. 334 (Plate III. fig. 20).—Spores for the most part clay-coloured, or in *Inocybe* ferrugineo-fuscous; veil of a different texture from the pellicle of the pileus, or in *Inocybe* homogeneous with the fibres of the pileus; pileus fleshy, pelliculose, damp, subviscous, or (in *Inocybe*) fibrous; stem confluent and homogeneous with the hymenophorum, fleshy-fibrous, ringless; gills sinuato-adnate.—HAB. All terrestrial.

All the species are gregarious, and many so similar in appearance as to be with difficulty distinguished from each other. Some are scentless, several smell like rotten pears, and many have a disgusting odour and are poisonous; none are esculent. Fries, in his 'Monographia Hymenomycetum Sueciæ,' has introduced a new subgenus after *Hebeloma*, which he names *Inocybe*, distinguished by the pileus being *silky-fibrous*, and having a few other unimportant characters; but I do not see how such a subgenus can stand, unless, indeed, a similar corresponding subgenus be founded after *Tricholoma*, *Entoloma*, and *Hypholoma*, for all these subgenera have numerous species exactly corresponding with the silky pileus, etc. of *Inocybe*. I therefore prefer to keep to his old views as expressed in the 'Epicrisis,' and keep *Inocybe* as a section of *Hebeloma*. *Hebeloma* corresponds with *Tricholoma*, Plate I. fig. 4, *Entoloma*, Plate II. fig. 13, *Hypholoma*, Plate IV. fig. 29, and *Panæolus*, Plate V. fig. 33. The species figured is *Agaricus (Hebeloma) fastibilis*, Fr. A very common species, closely allied to *A. crustulinoformis*, Bull. Spores ·0004″ × ·0003″.

Subgenus 21. FLAMMULA, Fr. Syst. Myc. vol. i. p. 250 (Plate III. fig. 21).—Spores in most species purely ferrugineous, occasionally approaching yellow ochre, always bright in colour; veil filamentous, often obsolete; pileus fleshy, and, as the subgenus is at present constituted, very variable. It may be,—1, covered with an inseparable and fibrillose cuticle; 2, covered with a more or less viscid and *separable* cuticle; 3, moist, and with *no separable* cuticle; 4, neither pelliculose nor viscid, and broken up more or less into scales or fibrils; stem fleshy, fibrous, confluent, and homogeneous with the hymenophorum; gills adnate, acutely adnate, or decurrent.—HAB. On the ground or on wood.

Fries says the natural affinity of *Flammula* is with *Pholiota*, Plate III. fig. 19, but I consider all true *Flammulæ* should correspond with *Clitocybe*, Plate I. fig. 5, and *Clitopilus*, Plate II. fig. 14. I suspect some of the species of *Flammula* that approach *Pholiota* in structure might with propriety be removed to that subgenus, and *Flammula* proper be restricted to species with more or less decurrent gills. Most of the species are tasteless or bitter, and none edible. They appear in late autumn or early winter. Some species of *Paxillus* may be mistaken for *Flammulæ*, but attention must be paid to the gills separating from the hymenophorum and other characters in *Paxillus*. The species figured is *Agaricus (Flammula) sapineus*, Fr. Spores ·00028″ × ·0002″.

Subgenus 22. CREPIDOTUS, Fr. Syst. Myc. vol. i. p. 272 (Plate III. fig. 22).—Spores dark or yellowish-brown; veil none; pileus excentric, dimidiate, or resupinate; flesh soft; stem lateral, or wanting, when present, confluent with and homogeneous with the hymenophorum. —HAB. Most of the species grow on wood, a few on moss.

The species are very irregular and variable. They mostly appear late in the autumn, and none are known to be edible. *Crepidotus* corresponds with *Pleurotus*, Plate I. fig. 6, and *Claudopus*, Plate II. fig. 15. As at present constituted, the species of this subgenus produce spores very variable in colour; some, being truly pink, find a fitting place amongst the *Hyporhodii;* other species having spores so intensely dark, that I suspect they will ultimately have to be removed to the *Pratellæ*. The species figured is *Agaricus (Crepidotus) mollis*, Schæff. Spores ·00025″ × ·00022″.

Subgenus 23. NAUCORIA, Fr. Syst. Myc. vol. i. p. 260 (Plate III. fig. 23).—Spores various shades of brown, dull or bright; veil absent, or attached to the edge of the pileus in young plants in the form of minute flakes; pileus convex and at first incurved, smooth, flocculent or squamulose; stem cartilaginous, confluent with, but heterogeneous from the hymenophorum.—HAB. Terrestrial or epiphytal.

No subgenus includes so many dissimilar species as this. In size, structure, the nature of the veil, and the colour of the spores, they differ exceedingly. *Naucoria* corresponds with *Collybia*, Plate I. fig. 7; *Leptonia*, Plate II. fig. 16; and *Psilocybe*, Plate IV. fig. 30. The species figured is *Agaricus (Naucoria) semiorbicularis*, Bull. Spores ·0005″ × ·00032″.

Subgenus 24. GALERA, Fr. Syst. Myc. vol. i. p. 264 (Plate III. fig. 24).—Spores ochraceo-ferruginous; veil often wanting, when present fibrous and fugacious; pileus more or less campanulate, margin straight, at first adpressed to the stem; stem cartilaginous, fistulose, confluent with but heterogeneous from the hymenophorum; gills adnate, or with a decurrent tooth exactly as in *Mycena*, Plate I. fig. 8. *Galera* also corresponds with *Nolanea*, Plate II. fig. 17; *Psathyra*, Plate IV. fig. 31; and *Psathyrella*, Plate V. fig. 34. The most typical species is perhaps *Agaricus sphagnorum*, Pers., with broad gills and decided sinus, but from its rarity I prefer to figure the common *A. tener*, Schæff.—HAB. The greater number of species are terrestrial.

The species are not numerous, and most are slender and brittle, appearing in the autumn. The species figured is *Agaricus (Galera) tener*, Schæff. Spores ·00054″ × ·0003″.

Subgenus 25. TUBARIA, subgen. nov. sp. *Naucoriæ*, Fr. (Plate III. fig. 25).—Pileus generally depressed, at first with an incurved margin; stem cartilaginous, hollow, confluent with but heterogeneous from the hymenophorum; gills decurrent.

As in *Eccilia*, there are very few known representatives of this position, either British or foreign, and the note appended to *Omphalia* applies equally to *Eccilia*, *Tubaria*, and *Deconica*. As at present constituted, some species of *Omphalia* are never depressed, but have a pileus more or less hemispherical or even obscurely umbonate from the first; the same applies to *Deconica*. The analogous species of *Tubaria* falling to this place are given in the list.

The species figured as a type is *A. (Tubaria) furfuraceus*, P.; it is strictly analogous, both in structure and habit, with *Omphalia*, Plate I. fig. 9; *Eccilia*, Plate II. fig. 18; and *Deconica*, Plate IV. fig. 32. Spores ·0003″ × ·00016″.

Series IV. PRATELLÆ, Fr. Epicr. p. 212.—*Spores various shades of brownish-purple, dark purple, or intense brown.*

Subgenus 26. PSALLIOTA, Fr. Epicr. p. 212 (Plate IV. fig. 26).—Spores dark brownish-purple, dark brown, reddish-purple, or pale slate; veil universal, concrete with the cuticle of the pileus, and fixed to the stem, forming a ring; pileus fleshy; stem distinct from the hymenophorum, furnished with a ring; gills free, and rounded behind, at first white, then pink, afterwards intense purple-brown.—HAB. All are terrestrial, mostly growing in rich pastures and on manured ground.

Most of the species appear in the autumn, and several are valued for their esculent properties. *Psalliota* corresponds with *Lepiota*, Plate I. fig. 2, and *Chamæota*, Plate II. fig. 11. The species figured is *A. (Psalliota) campestris*, L. Spores ·00032″ × ·0002″.

Subgenus 27. PILOSACE, Fr. (Plate IV. fig. 27).—Agrees in structure with *Pluteus*, Plate II. fig. 12, and has the hymenophorum distinct from the ringless stem; there are no British representatives.

Subgenus 28. STROPHARIA, Fr. Monog. Hymen. vol. i. p. 409 (Plate IV. p. 28).—Spores intense bright purple-brown, brown or slate-colour; veil, if present, universal, superficial, scaly, or viscid; stem confluent and homogeneous with the hymenophorum; gills adnate, not free and rounded behind, as in the last (*Psalliota*).—HAB. Terrestrial or epiphytal.

Formerly included under *Psalliota*, but now separated by Fries on account of the different habit, different attachment of the gills, and other characters. The species, of which none are edible, have various habits, but most are epiphytal, as are their analogues. *Stropharia* corresponds with *Armillaria*, Plate I. fig. 3, and *Pholiota*, Plate III. fig. 19. The species figured is *Agaricus (Stropharia) æruginosus*, Curt. Spores ·00028″ × ·0002″.

Subgenus 29. HYPHOLOMA, Fr. Syst. Mycol. vol. i. p. 287 (Plate IV. fig. 29).—Spores brownish-purple, sometimes intense purple, almost black; veil woven into a spidery fugacious web which adheres to the margin of the pileus, B. (not properly ring-shaped round the stem); pileus with an inseparable pellicle; stem confluent and homogeneous with the hymenophorum.—HAB. Generally stumps.

Most of the species are gregarious and not edible. *Hypholoma* corresponds with *Tricholoma*, Plate I. fig. 4; *Entoloma*, Plate II. fig. 13; *Hebeloma*, Plate III. fig. 20; and *Panæolus*, Plate V. fig. 33. The species figured is *Agaricus (Hypholoma) lacrymabundus*, Fr. Spores ·0003″ × ·0002″.

Subgenus 30. PSILOCYBE, Fr. Syst. Mycol. vol. i. p. 289 (Plate IV. fig. 30).—Spores purple, purple-brown, or slate-colour; veil obsolete (or in a few species fugacious, when present not forming a distinct ring); pileus glabrous, at first incurved; stem cartilaginous, ringless, confluent with but heterogeneous from the hymenophorum. —HAB. All grow on the ground.

The species are almost all gregarious, cæspitose, inodorous, with fugitive colouring, and not edible. Fries divides the subgenus into two groups, the *tenacious* and the *fragile*. *Psilocybe* corresponds with *Collybia*, Plate I. fig. 7; *Leptonia*, Plate II. fig. 16, and *Naucoria*, Plate III. fig. 23. The species figured is *Agaricus (Psilocybe) spadiceus*, Schæff. Spores ·0003″ × ·0002″.

Subgenus 31. Psathyra, Fr. Epic. p. 231 (Plate IV. fig. 31).—Spores dark purple-brown, approaching slate-colour; veil universal, fibrous, or absent, not forming a ring; pileus submembranaceous, conical or campanulate, margin at first straight and adpressed to the stem; stem fistulose, ringless, cartilaginous, fragile, confluent with but heterogeneous from the hymenophorum.—Hab. On the ground or rotten wood.

All are slender and hygrophanous, with fugitive colouring, and closely allied to the *fragile* species of the last subgenus. *Psathyra* agrees with *Mycena* (Plate I. fig. 8), *Nolanea* (Plate II. fig. 17), *Galera* (Plate III. fig. 24), *Psathyrella* (Plate V. fig. 34). The species figured is *Agaricus (Psathyra) corrugis*, Pers. Spores ·0005″ × ·0003″.

Subgenus 32. Deconica, subgen. nov. sp. *Psilocybis* Fr. (Plate IV. fig. 32).—Pileus thin, plane, at first incurved; veil obsolete or adhering to the margin of pileus, not forming a ring; stem cartilaginous, hollow, confluent with but heterogeneous from the hymenophorum; gills decurrent.

The typical species figured is *A. (Deconica) physaloides*, Bull.; it is analogous with *Omphalia* (Plate I. fig. 9), *Eccilia* (Plate II. fig. 18), and *Tubaria* (Plate III. fig. 25). Spores ·00034″ × ·0002″.

Series V. Coprinarii, Fr. Epicr. p. 234.—*Spores black.*

Subgenus 33. Panæolus, Fr. Epicr. 234 (Plate V. fig. 33).—Veil, when present, interwoven, sometimes wanting; spores black, oval, plain, lemon-shaped, or echinulate; pileus somewhat fleshy, viscid when moist, shining when dry, not becoming purple or brown, *never striate*, the *margin exceeding the variegated gills*.—Hab. Almost all grow on dung, often near towns, in summer and autumn.

This and the following subgenus differ from all the preceding in their *black spores*, and occupy an intermediate position between *Agaricus* and *Coprinus*, agreeing with the latter in the colour of the spores, but joined more properly to the genuine Agarics by the *gills not* *deliquescing.* Although the veil may be entirely absent in some species, yet they are so allied that they cannot be well separated. It is, however, difficult to place this subgenus in proper connection with the foregoing, but I consider its nearest ally to be *Hypholoma*, Plate IV. fig. 29, and the subgenera in corresponding places on the preceding plates, principally on account of the nature of the veil; and the margin of pileus exceeding the gills as in *Agaricus (Tricholoma) acerbus*, Bull; some of the species are, however, allied to *Psalliota*, Plate IV. fig. 26, and its congeners on the previous plates, with which it agrees well in several characters, such as the habitat, manured ground, etc.; this subgenus (like several others) would probably bear subdivision, which is not at present advisable. *A. phalænarum*, Fr., is said to be edible. The species figured is *Agaricus (Panæolus) separatus*, L. Spores ·0006″ × ·0004″.

Subgenus 34. PSATHYRELLA, Fr. Epicr. 237 (Plate V. fig. 34).—Spores black, oval, plain or echinulate; veil inconspicuous, not interwoven, generally absent; pileus membranaceous, striate, margin straight, adpressed to the stem, *not exceeding the gills;* stem confluent with but heterogeneous from the hymenophorum; gills adnate or free.

The species are all very slender, and the only other subgenus with black spores (*Panæolus*, fig. 33) is readily distinguished by the characters of the pileus; it agrees in every point with *Psathyra*, Plate IV. fig. 31, except the colour of the gills being never brown or purple, and the spores black. It also agrees, more or less, in structure with *Mycena*, Plate I. fig. 8; *Nolanea*, Plate II. fig. 17; *Galera*, Plate III. fig. 24, and also appears to be allied to Genus III. BOLBITIUS, which, however, is at once distinguished by its coloured spores. The species figured is *Agaricus (Psathyrella) disseminatus*, P. Spores ·0003″ × ·0002″.

Genus II. COPRINUS, Fr. Epicr. p. 241.—Spores black; margin of pileus straight, at first adpressed to the stem; stem confluent with or distinct from the hymenophorum; gills at first coherent, and sprinkled with a micaceous scurf, soon deliquescing into a black fluid, trama none.—HAB. Fat and rank places, often on dung, but sometimes on decaying wood.

Readily distinguished by its deliquescent habit.

Genus III. BOLBITIUS, Fr. Epicr. p. 253.—Spores coloured; pileus yellow, becoming moist; stem hollow, confluent with the hymenophorum; gills becoming moist, but not deliquescent, at length losing their colour and becoming powdery.—HAB. Dung or rank earth near towns.

A very natural but small genus, intermediate between *Agaricus* and *Coprinus* on one side, and *Coprinus* and *Cortinarius* on the other; it resembles *Coprinus* in its mode of growth, and ephemeral existence; the species have no known use.

Genus IV. CORTINARIUS, Fr. Epicr. p. 255.—Spores rusty ochre, resembling in colour peroxide of iron; veil universal, of a different texture from the pileus, and consisting of arachnoid threads: a similar veil is found in *Agaricus*, but it is there either entire, partial, or continuous with the cuticle of pileus; stem confluent with the hymenophorum; gills adnate, membranaceous, persistent, cinnamon-coloured and powdery, trama floccose.—HAB. Woods and fields.

This genus, the most natural amongst the *Agaricini*, is readily distinguished by its peculiar habit, but is badly defined by artificial characters; the species are variable in size and changeable in colour: when old, they present a different appearance from their young state, and are very different when dry to when fresh. It has been divided as follows:—

Subgenus 1. PHLEGMACIUM, Fr. Epicr. p. 256.—Pileus with a continuous pellicle, viscid when moist; veil (and consequently the stem) dry, not glutinous.

Subgenus 2. MYXACIUM, Fr. Epicr. p. 273.—Pileus glutinous; veil (and consequently the stem) viscid, polished when dry.

Subgenus 3. INOLOMA, Fr. Epicr. p. 278.—Pileus fleshy, subcompact, perfectly dry, with no viscid pellicle, silky with scales, or innate fibres, not hygrophanous; stem bulbous. The species handsome and easily distinguished.

Subgenus 4. DERMOCYBE, Fr. Epicr. p. 283.—Pileus thin, but fleshy, with no viscid pellicle, entirely dry, not hygrophanous, at first clothed with a superficial down, then glabrous; stem thin, somewhat stuffed, equal or attenuated, not bulbous; gills changeable in colour. The species are polymorphous and defined with difficulty, in consequence of the changeable colour of the gills.

Subgenus 5. TELAMONIA, Fr. Epicr. p. 291.—Pileus moist, hygrophanous, at first glabrous or sprinkled with the arachnoid superficial fibres of the veil, thin or moderately compact in the disk; stem peronate, and annulate from an inferior veil. Mostly large and handsome.

Subgenus 6. HYDROCYBE, Fr. Epicr. p. 303.—Pileus generally thin, glabrous, hygrophanous, but not viscid, cuticle rigid, not fibro-lacerate; stem rigid, subcartilaginous without, never annulated or scaly.

Genus V. LEPISTA, gen. nov.; *Lepista*, *Paxilli* sect. Fr. Epicr. p. 315.—Spores (as well as the whole plant) dirty white; pileus fleshy, with an involute margin gradually increasing indefinitely; stem always central, continuous with the horny hymenophorum; gills fragile, persistent, decurrent, membranaceous, entire, with a sharp edge, supported by the horny hymenophorum.—HAB. All the species are terrestrial.

I have followed Fries' later views in transferring some *Tricholomata* to this position, on account of the absence of a true trama, etc.; as *Tricholoma* is analogous to *Entoloma*, I have sought for the corresponding absence of a trama in the latter subgenus, and from my own notes I find it partially absent in *Agaricus (Entoloma) placenta*, Batsch., and *A. (Entoloma) nidorosus*, Fr. Certain species also occur in the analogous subgenera *Hebeloma* and *Hypholoma* with the trama partially absent, as *A. (Hebeloma) lanuginosus*, Fr., and *A. (Hypholoma) lacrymabundus*, Fr.; the character also pertains to some species of *Coprinarii.*

The value of the trama as a character has not been properly studied, and in future its presence or absence should be invariably given in all descriptions of Agarics. Nylander and Hoffman affirm its presence in *Paxillus involutus*, Fr.; and there certainly appears to be a floccose trama present in *P. pannoides*, Fr., a species which may be as readily mistaken for a *Cantharellus* as *P. porosus*, Berk., for a *Boletus.*

Genus VI. PAXILLUS, Fr. Gen. Hymen. p. 8, *ex parte.*—Spores (as well as the whole plant) ferrugineous; pileus fleshy, seldom entire, generally more or less dimidiate, entirely lateral or sessile, with an involute margin, and gradually increasing indefinitely; stem continuous with the hymenophorum; gills tough, soft, persistent, decurrent, anastomosing behind, branching, or forming spurious pores as in *Boletus*, with a sharp edge, separating from the fleshy hymenophorum, owing to the absence of a trama.—HAB. Generally on trunks of trees, sawdust, etc., but some are terrestrial.

Genus VII. HYGROPHORUS, Fr. Epicr. p. 320.—Spores white; veil, when present, universal; stem confluent with the hymenophorum; gills sharp-edged, trama similar in substance to that of the pileus.—HAB. On the ground, mostly late in the autumn, some in the summer.

Most of the species are handsome and easily recognized. From

Agaricus this genus differs in the trama, the substance of which is similar to that of the pileus; from *Lactarius* and *Russula* by the trama not being vesicular, but subfloccose, and intermixed with granules; and from its nearest ally, *Cantharellus*, by the sharp-edged gills. This genus is also distinguished by the hymenophorum being changed into a waxy mass, and at length detached from the trama. Many species are sapid and edible. In *Cortinarius*, *Paxillus*, and *Gomphidius*, the spores are coloured, and the gills lose their colour.

Genus VIII. GOMPHIDIUS, Fr. Epicr. p. 319.—Spores large, fusiform (often spuriously uniseptate, according to Fries), greenish-grey, becoming black; veil universal, glutinous, terminated on the stem by a floccose annulus; pileus continuous with the stem, fleshy, convex, at length top-shaped; stem confluent with the hymenophorum; gills strongly decurrent, somewhat branched, soft, mucilaginous, often spreading in a continuous membrane.—HAB. Growing on the ground, chiefly in Pine woods, solitary, subpersistent.

Principally distinguished by the mucilaginous nature of the gills. Nearly allied to *Cortinarius*, but at once distinguished by the shape and colour of the spores, and from all the dark-purple and black-spored Agarics by the compact pileus, etc. Properties unknown; none edible.

Genus IX. LACTARIUS, Fr. Epicr. p. 333.—Spores white or very pale yellow, generally echinate; veil none, but in some species the margin of pileus is bearded or pubescent; pileus fleshy, of a floccose or vesiculose (not fibrous) texture, at length depressed in the disk, margin at first involute; stem fleshy, not corticate, often hollow when old, confluent with the hymenophorum; gills milky, in nearly all the species at first white, often changing to sulphur-colour, red, or violet on exposure to the air, subdecurrent, unequal, with an acute edge, trama subvesiculose.—HAB. All grow on the ground.

This genus is nearly allied to *Russula*, but easily distinguished by the milky gills. They vary greatly in taste, being mild, aromatic, bitter, or acrid and burning. *Lactarius* includes delicate and excessively poisonous species.

Genus X. RUSSULA, Fr. Gen. Hymen.—Spores white or very pale yellow, generally echinate; veil entirely obsolete; pileus fleshy, convex, then expanded, and at length depressed; stem stout, polished, not corticate, generally spongy within, confluent with the hymenophorum; gills nearly equal, milkless, rigid, brittle, with an acute edge, sometimes dropping water, trama vesiculose.—HAB. On the ground in late summer and autumn.

This genus agrees with *Lactarius* in size and some other characters, but differs in the absence of milk, and the gills being nearly equal, or in one series. Odour none, or unpleasant. A few species are edible, but most are noxious.

Genus XI. CANTHARELLUS, Adans. Fung. Ord. V.—Spores white; veil entirely absent; pileus fleshy or membranaceous; stem confluent with the hymenophorum, or absent; gills decurrent, folded, more or less thick and swollen, branched, trama floccose.—HAB. Growing on the ground, or on rotten wood, moss, etc.

This genus holds an intermediate place between *Agaricus* and *Craterellus*, some species being close to one, some to the other genus. Some are said to be poisonous, others edible.

Genus XII. NYCTALIS, Fr. Gen. Hymen.—Veil universal, floccoso-pruinose; pileus in the British species fleshy and pruinose or pulverulent; stem confluent with the hymenophorum; gills broad, simple, unequal, thick, fleshy, juicy, or subgelatinous, edge obtuse, not descending on the stem.—HAB. The British species are small and parasitic on other Agarics.

This genus consists of fleshy putrescent Fungi. Some species grow in subterranean passages.

Genus XIII. MARASMIUS, Fr. Gen. Hymen.—Spores white, subelliptical; pileus tough, fleshy, or membranaceous; stem central (in one species absent), confluent with the hymenophorum, but of a different texture; gills thick, tough, and coriaceous, confluent at the base, generally distant, and rarely decurrent, with a sharp entire edge.—HAB. Epiphytal, growing on decayed leaves or the roots of grasses, etc.

This genus, closely alllied to *Collybia*, commences the series of Agarics that are not putrescent, but which dry up with drought, and come to life with rain. This biological character is of great importance; for by its neglect species nearly related have been widely separated. The texture of all the species is tough, distinguishing them from the preceding. The species are mostly small and slender. Some are edible, others have an offensive, fœtid, or alliaceous smell.

Genus XIV. LENTINUS, Fr. El. p. 45.—Spores white; pileus fleshy, coriaceous, tough, hard, and dry; stem hard and often obsolete, when present continuous and the same with the hymenophorum; gills tough, simple, unequal, thin, edge acute, generally toothed; trama none.—Hab. On stumps, rarely on the ground.

A natural but very polymorphic genus, distinguished from *Pleurotus* by its tough and fleshy substance.

Genus XV. Panus, Fr. Epicr. p. 396.—Spores white; pileus unequal-sided or lateral, tough, fleshy, at length coriaceous, but not woody, drying up, but reviving with moisture; stem the same with the hymenophorum; gills thinner than in the last genus, tough, at length coriaceous, unequal, with an entire acute edge; trama floccose.—Hab. On stumps.

All the species are tough (at first softer), never woody; drying up in decay.

Genus XVI. Xerotus, Fr. El. p. 48.—Spores white; pileus membranaceous; stem confluent with the hymenophorum, which descends into and forms a trama; gills dichotomous, foldlike, coriaceous, adnato-decurrent, with an obtuse entire edge; in the single British species branched and very distant.—Hab. The British plant grows in peat-mosses.

This genus, which is chiefly tropical, resembles a coriaceo-membranaceous *Cantharellus*, with narrow gills.

Genus XVII. Trogia, Fr. Gen. Hymen.—Spores white; pileus submembranaceous, soft, tenacious, flaccid, but very dry, flexible, reviving with moisture; gills venose, fold-like, forked, edge channelled longitudinally or crisped; texture fibrous.—Hab. On wood, chiefly from the East Indies.

In the only British species (*Cantharellus crispus* of the 'Epicrisis') the edge of the gills is obtuse (not channelled), but it has the habit, form, and texture of *Tragia*, and is referred to this genus without doubt, by Fries.

Genus XVIII. Schizophyllum, Fr. Observ. Mycol. vol. i. p. 103.—Spores white; pileus not fleshy, dry, sessile; gills coriaceous, branched, split longitudinally at the edge, with the two divisions revolute or spreading, joined to the pileus by a tomentose pellicle.—Hab. Rotten wood.

An easily recognized but very aberrant genus of the *Agaricini*.

Genus XIX. Lenzites, Fr. Gen. Hymen.—Spores white; pileus coriaceous, dimidiate, sessile; gills coriaceous, firm, unequal, simple or branched, and anastomosing behind, edge obtuse or acute, trama floccose; often spuriously porous.—Hab. On stumps, rails, etc.

Chiefly tropical, where the species become woody, with us they are only coriaceous. Allied to *Trametes* and *Dædalea*, amongst the *Polyporei.*

A List of the British Agaricini.

[The species printed in italics are new to this country since the publication of Berkeley's 'Outlines.']

Genus I. AGARICUS, *L.*
Series I. Leucospori, *Fr.*
Subgenus 1. *Amanita, P.*
* Vaginatæ.
1. A. (Am.) vaginatus, *Bull.* 1
2. A. (Am.) Ceciliæ, *B. and Br.* 2
3. *A. (Am.) adnatus*, W. Sm. 3
** Phalloidæ.
4. A. (Am.) vernus, *Bull.* 4
5. A. (Am.) phalloides, *Fr.* 5
6. A. (Am.) mappa, *Batsch.* 6
*** Muscariæ.
7. A. (Am.) muscarius, *L.* 7
8. A. (Am.) excelsus, *Fr.* 8
9. A. (Am.) pantherinus, *DC.* 9
10. A. (Am.) strobiliformis, *Fr.* 10
**** Validæ.
11. A. (Am.) rubescens, *P.* 11
12. *A. (Am.) spissus*, Fr. 12
13. A. (Am.) asper, *Fr.* 13
***** Denudati.
14. A. (Am.) lenticularis, *Lasch.* 15
15. A. (Am.) megalodactylus, *B.* 14
Subgenus 2. *Lepiota*, Fr.
* Proceri.
16. A. (Lep.) procerus, *Scop.* 16
17. A. (Lep.) rachodes, *Vitt.* 17
18. A. (Lep.) excoriatus, *Schæff.* 18
19. A. (Lep.) gracilentus, *Kromb.* 19
20. A. (Lep.) mastoideus, *Fr.* 20
** Clypeolarii.
21. A. (Lep.) acutesquamosus, *Wm.* 21
22. *A. (Lep.) hispidus*, Lasch. 22
23. A. (Lep.) Badhami, *B. and Br.* 23
24. *A. (Lep.) meleagris*, Sow. 24
25. A. (Lep.) clypeolarius, *Bull.* 25
26. A. (Lep.) cristatus, *Fr.* 26
*** Annulosi.
27. A. (Lep.) Vittadini, *Moretti.* 27
28. *A. (Lep.) holosericeus*, Fr. 28
29. A. (Lep.) naucinus, *Fr.* 29
30. A. (Lep.) cepæstipes, *Sow.* 30
**** Mesomorphi.
31. A. (Lep.) granulosus, *Batsch.* 31
32. A. (Lep.) polystictus, *Berk.* 32
***** Illiniti.
33. A. (Lep.) gliodermus, *Fr.* 33
Subgenus 3. *Armillaria*, Fr.
* Tricholomoideæ.
34. A. (Ar.) constrictus, *Fr.* 34
35. A. (Ar.) ramentaceus, *Bull.* 35
** Clitocyboideæ.
36. A. (Ar.) melleus, *Vahl.* 36
*** Collybioideæ.
37. A. (Ar.) mucidus, *Fr.* 37
Subgenus 4. *Tricholoma*, Fr.
* Tricholomata Limacina.
38. A. (Tr.) equestris, *L.* 38
39. A. (Tr.) sejunctus, *Sowb.* 39
40. A. (Tr.) portentosus, *Fr.* 40
41. A. (Tr.) fucatus, *Fr.* 41
42. A. (Tr.) spermaticus, *Fr.* 42
43. A. (Tr.) nictitans, *Fr.* 43
44. A. (Tr.) fulvellus, *Fr.* 44
45. A. (Tr.) flavo-brunneus, *Fr.* 45
46. *A. (Tr.) ustalis.* 46
47. A. (Tr.) albo-brunneus, *Fr.* 47
48. *A. (Tr.) pessundatus.* 48

49. A. (Tr.) frumentaceus, *Bull.* 254 ×
** Tricholomata flocculosa.
50. A. (Tr.) rutilans, *Schæff.* 49
51. A. (Tr.) scalpturatus, *Fr.* 50
52. A. (Tr.) luridus, *Schæff.* 51
53. A. (Tr.) Columbetta, *Fr.* 52
54. A. (Tr.) imbricatus, *Fr.* 53
55. A. (Tr.) vaccinus, *P.* 54
56. A. (Tr.) crassifolius, *B.* 55
57. A. (Tr.) murinaceus, *Bull.* 56
58. A. (Tr.) terreus, *Schæff.* 57
*** Tricholomata rigida.
59. A. (Tr.) saponaceus, *Fr.* 58
60. A. (Tr.) cartilagineus, *Bull.* 59
61. A. (Tr.) cuneifolius, *Fr.* 60
62. *A. (Tr.) colossus*, Fr. 61
**** Tricholomata sericella.
63. A. (Tr.) sulfureus, *Bull.* 62
64. A. (Tr.) bufonius, *P.* 63
65. A. (Tr.) lascivus, *Fr.* 64
66. A. (Tr.) inamœnus, *Fr.* 65
67. A. (Tr.) ionides, *Bull.* 66
68. *A. (Tr.) pæonius*, Fr. 67
69. A. (Tr.) carneus, *Bull.* 68
***** Tricholomata guttata.
70. A. (Tr.) gambosus, *Fr.* 69
71. A. (Tr.) albellus, *DC.* 70
72. A. (Tr.) monstrosus, *Sowb.* 71
73. A. (Tr.) immundus, *Berk.* 72
74. *A. (Tr.) tigrinus*, Fr. 73
****** Tricholomata spongiosa.
75. A. (Tr.) albus, *Fr.* 74
76. A. (Tr.) acerbus, *Bull.* 75
******* Tricholomata hygrophana.
77. A. (Tr.) grammopodius, *Bull.* 76
78. A. (Tr.) melaleucus, *P.* 77
79. *A. (Tr.) brevipes*, Kl. 78
80. A. (Tr.) humilis, *Fr.* 79
81. A. (Tr.) subpulverulentus, *P.* 80
Subgenus 5. *Clitocybe*, Fr.
* Disciformes.
82. A. (Cl.) nebularis, *Batsch.* 81
83. A. (Cl.) inornatus, *Sowb.* 82
84. A. (Cl.) vernicosus, *Fr.* 83
85. A. (Cl.) odorus, *Bull.* 84
86. A. (Cl.) cerussatus, *Fr.* 85
87. A. (Cl.) phyllophilus, *Fr.* 86
88. *A. (Cl.) pithyophilus*, Secr. 87
89. A. (Cl.) candicans, *Pers.* 88
90. A. (Cl.) dealbatus, *Fr.* 89
91. A. (Cl.) gallinaceus, *Scop.* 90
** Difformes.
92. A. (Cl.) elixus, *Sow.* 91
93. A. (Cl.) fumosus, *P.*, var. polius, *Fr.* 92
94. A. (Cl.) opacus, *With.* 93
*** Infundibuliformes.
95. A. (Cl.) giganteus, *Sow.* 94
96. *A. (Cl.) maximus*, Fr. 95
97. A. (Cl.) infundibuliformis, *Schæff*, var. membranaceus. 96
98. *A. (Cl.) trullæformis*, Fr. 97
99. A. (Cl.) geotropus, *Bull.* 98
100. A. (Cl.) inversus, *Scop.* 99
101. A. (Cl.) flaccidus, *Sow.* 100
**** Cyathiformes.
102. A. (Cl.) cyathiformis, *Bull.* 101
103. A. (Cl.) brumalis, *Fr.* 102
***** Orbiformes.
104. A. (Cl.) metachrous, *Fr.* 103
105. A. (Cl.) fragrans, *Sow.* 104
****** Versiformes.
106. A. (Cl.) difformis, *P.* 105
107. A. (Cl.) ectypus, *Fr.* 106
108. A. (Cl.) bellus, *P.* 107
109. A. (Cl.) laccatus, *Scop.* 108
Subgenus 6. *Pleurotus*, Fr.
* Lepiotaria.
110. A. (Pl.) corticatus, *Fr.* 109
111. A. (Pl.) dryinus, *P.* 110
112. *A. (Pl.) spongiosus*, Lasch. 111
** Concharia.
113. A. (Pl.) ulmarius, *Bull.* 112
114. A. (Pl.) subpalmatus, *Fr.* 113
115. *A. (Pl.) craspedius*, Fr. 114
116. A. (Pl.) fimbriatus, *Bolt.* 115
117. *A. (Pl.) lignatilis*, Pers. 116
118. *A. (Pl.) circinatus*, Fr. 117
119. A. (Pl.) ostreatus, *Jacq.* 118
120. A. (Pl.) salignus, *Hoffm.* 119
*** Holopleurus.
121. A. (Pl.) petaloides, *Bull.* 120

according to Cooke & Berkeley this is an Entoloma & is there placed as N° 254. Wm

122. A. (Pl.) serotinus, *Schrad.* 121
123. A. (Pl.) mitis, *P.* 2
124. A. (Pl.) tremulus, *Schæff.* 3
125. A. (Pl.) acerosus, *Fr.* 4

**** Omphalaria.

126. A. (Pl.) porrigens, *P.* 5
127. A. (Pl.) septicus, *Fr.* 6
128. A. (Pl.) mastrucatus, *Fr.* 7
129. A. (Pl.) atrocæruleus, *Fr.* 8
130. A. (Pl.) algidus, *Fr.* 9
131. A. (Pl.) Leightoni, *Berk.* 130
132. A. (Pl.) cyphellæformis, *Berk.* 1
133. A. (Pl.) Hobsoni, *Berk.* 2
134. A. (Pl.) applicatus, *Batsch.* 3
135. A. (Pl.) striatulus, *Fr.* 4
136. A. (Pl.) hypnophilus, *P.* 5
137. A. (Pl.) chioneus, *P.* 6

Subgenus 7. *Collybia*, Fr.

* Striæpedes.

138. A. (Col.) radicatus, *Relh.* 7
139. A. (Col.) longipes, *Bull.* 8
140. A. (Col.) platyphyllus *Fr.* 9
141. A. (Col.) fusipes, *Bull.* 140
Var. *œdematopus*, Fr.
142. A. (Col.) maculatus, *A. and S.* 1
143. A. (Col.) butyraceus, *Bull.* 2

** Vestipedes.

144. A. (Col.) velutipes, *Curt.* 3
145. A. (Col.) stipitarius, *Fr.* × 4
146. A. (Col.) confluens, *P.* 5
147. A. (Col.) ingratus, *Schum.* 6
148. *A. (Col.) vertirugis*, Cooke. 7
149. A. (Col.) conigenus, *P.* 8
150. A. (Col.) cirrhatus, *Schum.* 9
151. A. (Col.) tuberosus, *Bull.* 150
152. A. (Col.) racemosus, *P.* 1

*** Lævipedes.

153. A. (Col.) acervatus, *Fr.* 2
154. *A. (Col.) collinus*, Scop. 3
155. A. (Col.) xanthopus, *Fr.* 4
156. A. (Col.) dryophilus, *Bull.* 5
157. A. (Col.) exsculptus, *Fr.* 6
158. A. (Col.) tenacellus, *P.* 7
159. A. (Col.) esculentus, *Wul.* 8
160. A. (Col.) clavus, *L.* 9
161. A. (Col.) ocellatus, *Fr.* 150

**** Tephrophanæ.

162. *A. (Col.) inolens*, Fr. 161
163. *A. (Col.) plexipes*, Fr. 2
164. A. (Col.) laceratus, *Lasch.* 3
165. *A. (Col.) protractus*, Fr. 4
166. A. (Col.) atratus, *Fr.* 5

Subgenus 8. *Mycena*, Fr.

* Calodontes.

167. A. (My.) pelianthinus, *Fr.* 6
168. A. (My.) balaninus, *Berk.* 7
169. *A. (My.) marginellus*, Fr. 8
170. A. (My.) elegans, *P.* 9
171. A. (My.) rubro-marginatus, Fr. 170.
172. *A. (My.) coccinellus*, P. ✝ 1
173. A. (My.) rosellus, *Fr.* 2

** Adonideæ.

174. A. (My.) purus, *P.* 3
175. A. (My.) Iris, *Berk.* 4
176. A. (My.) Adonis, *Bull.* 5
177. A. (My.) luteo-albus, *Bolt.* 6
178. *A. (My.) flavo-albus*, Fr. 7
179. A. (My.) lacteus, *Pers.* 8

*** Rigidipedes.

180. A. (My.) proliferus, *Sowb.* 9
181. *A. (My.) rugosus*, Fr. 180
182. A. (My.) galericulatus, *Schæff.* 1
183. A. (My.) polygrammus, *Bull.* 2
184. A. (My.) parabolicus, *A. and S.* 3

**** Fragilipedes.

185. A. (My.) atro-albus, *Bull.* 4
186. A. (My.) dissiliens, *Fr.* 5
187. A. (My.) alcalinus, *Fr.* 6
188. A. (My.) pauperculus, *Berk.* 7
189. *A. (My.) vitreus*, Fr. 8
190. A. (My.) tenuis, *Bolt.* 9
191. A. (My.) tenellus, *Fr.* 190

***** Filopedes.

192. A. (My.) filopes, *Bull.* 1
193. A. (My.) vitilis, *Fr.* 2
194. A. (My.) speireus, *Fr.* 3
195. A. (My.) acicula, *Schæff.* 4

****** Lactipedes.

196. *A. (My.) hæmatopus*, P. 5
197. A. (My.) cruentus, *Fr.* 6
198. A. (My.) sanguinolentus, *A. and S.* 7

× Cooke calls this "cauliciniales" but it is the same species.
✝ " "strobilinus" do — do.

199. A. (My.) crocatus, *Schrad.* 198
200. A. (My.) chelidonius, *Fr.* 9
201. A. (My.) galopus, *Schrad.* 200
******* Glutinipedes.
202. A. (My.) epipterygius, *Scop.* 1
203. A. (My.) pelliculosus, *Fr.* 2
204. A. (My.) vulgaris, *P.* 3
205. *A. (My.) citrinellus*, P. 4
206. A. (My.) roridus, *Fr.* 5
******** Basipedes.
207. A. (My.) stylobates, *P.* 6
208. A. (My.) tenerrimus, *B.* 7
209. A. (My.) pterigenus, *Fr.* 8
210. *A. (My.) sacchariferus*, B. and Br. (*ms.*).
********* Insititiæ.
211. A. (My.) corticola, *Schum.* 9
212. *A. (My.) hiemalis*, Osb. 210
213. A. (My.) setosus, *Sow.* 1
214. A. (My.) capillaris, *Schum.* 2
215. A. (My.) juncicola, *Fr.* 3

Subgenus 9. *Omphalia*, Fr.

* Collybariæ.
† Hydrogrammæ. (No British representatives.)
†† Pyxidatæ.
216. A. (Omp.) pyxidatus, *Bull.* 4
217. A. (Omp.) hepaticus, *Batsch.* 5
218. *A. (Omp.) affricatus*, Fr. 6
219. A. (Omp.) sphagnicola, *Berk.* 7
220. A. (Omp.) oniscus, *Fr.* 8
††† Umbelliferæ.
221. A. (Omp.) muralis, *Sow.* 9
222. A. (Omp.) umbelliferus, *L.* 220
223. A. (Omp.) rufulus, *B. and Br.* 1
224. A. (Omp.) stellatus, *Sow.* 2
** Mycenaria.
225. A. (Omp.) campanella, *Schæff.* 3
226. A. (Omp.) camptophyllus, *Berk.* 4
227. A. (Omp.) griseus, *Fr.* 5
228. A. (Omp.) helvelloides, *Bull.* 6
229. A. (Omp.) fibula, *Bull.* 7
230. *A. (Omp.) gracillimus*, Weinm. 8
231. A. (Omp.) belliæ, *Johnst.* 9
232. A. (Omp.) integrellus, *P.* 230

Series II. Hyporhodii, *Fr.*

Subgenus 10. *Volvaria*, Fr.

233. A. (Vol.) bombycinus, *Schæff.* 231
234. A. (Vol.) volvaceus, *Bull.* 2
235. A. (Vol.) Loveianus, *Berk.* 3
236. A. (Vol.) Taylori, *Berk.* 4
237. A. (Vol.) parvulus, Weinm. 5
238. A. (Vol.) speciosus, *Fr.* 6
239. *A. (Vol.) gloiocephalus*, Fr. 7

Subgenus 11. *Chamæota*, subgen. nov.

240. A. (Ch.) cretaceus, *Fr.* 8
241. A. (Ch.) echinatus, *Roth.* 9

Subgenus 12. *Pluteus*, Fr.

242. A. (Pl.) cervinus, *Schæff.* 240
243. A. (Pl.) umbrosus, *P.* 1
244. A. (Pl.) petasatus, *Fr.* 3
245. A. (Pl.) leoninus, *Schæff.* 4
246. A. (Pl.) chrysophæus, *Schæff.* 5
247. A. (Pl.) nanus, *P.* 2
248. A. (Pl.) phlebophorus, *Dittm.* 6

Subgenus 13. *Entoloma*, Fr.

* Genuini.
249. *A. (En.) sinuatus*, Fr. 7
250. A. (En.) prunuloides, *Fr.* 8
251. A. (En.) placenta, *Batsch.* 9
252. A. (En.) elodes, *Fr.* 250
253. A. (En.) repandus, *Bull.* 1
254. A. (En.) Bloxami, *B. and Br.* 2
255. A. (En.) ardosiacus, *Bull.* 3
256. *A. (En.) ameides*, B. and Br. 5
** Leptonidei.
257. *A. (En.) jubatus*, Fr. 6
258. *A. (En.) griseo-cyaneus*, Fr. 7
259. A. (En.) sericellus, *Fr.* 8
*** Nolanides.
260. A. (En.) clypeatus, *L.* 9
261. A. (En.) rhodopolius, *Fr.* 260
262. *A. (En.) majalis*, Fr. 1
263. A. (En.) costatus, *Fr.* 2
264. A. (En.) sericeus, *Bull.* 3
265. A. (En.) nidorosus, *Fr.* 4

Subgenus 14. *Clitopilus*, Fr.

266. A. (Cl.) prunulus, *Pers.*; var. orcella. 5
267. *A. (Cl.) cretatus*, Berk. 6

Cooke insert here Entoloma frumentaceum (vide ante No. 49.
Wm

268. A. (Cl.) mundulus, *Lasch.* 267
269. *A. (Cl.) popinalis*, Fr. 8
270. *A. (Cl.) undatus*, Fr. 9
271. *A. (Cl.) cancrinus*, Fr. 270
Subgenus 15. *Claudopus*, subgen. nov.
272. A. (Cl.) euosmus, *Berk.* 1
273. A. (Cl.) variabilis, *P.* 2
274. A. (Cl.) depluens, *Batsch.* 3
275. A. (Cl.) byssisedus, *P.* 4
Subgenus 16. *Leptonia*, Fr.
276. A. (Lep.) lampropus, *Fr.* 5
277. A. (Lep.) serrulatus, *P.* 6
278. A. (Lep.) euchrous, *P.* 7
279. A. (Lep.) chalybæus, *P.* 8
280. A. (Lep.) incanus, *Fr.* 9
281. A. (Lep.) asperellus, *Fr.* 280
Subgenus 17. *Nolanea*, Fr.
282. A. (Nol.) pascuus, *P.* 1
283. A. (Nol.) rufo-carneus, *Berk.* 2
284. A. (Nol.) rubidus, *Berk.* 3
285. A. (Nol.) Babingtonii, *Blox.* 4
286. *A. (Nol.) junceus*, Fr. 5
Subgenus 18. *Eccilia*, Fr.
287. *A. (Ec.) carneo-griseus, Berk.* 6
288. *A. (Ec.) Parkensis*, Fr. 7
289. *A. (Ec.) rhodocylix*, Lasch. 8
Series III. DERMINI, *Fr.*
Subgenus 19. *Pholiota*, Fr.
* Humigenei.
290. A. (Ph.) durus, *Bolt.* 9
291. A. (Ph.) præcox, *P.* 290
** Truncigenei.
292. A. (Ph.) radicosus, *Bull.* 1
293. A. (Ph.) pudicus, *Bull.* 2
294. *A. (Ph.) leochromus*, Cooke. 3
295. *A. (Ph.) capistratus*, Cooke. 4
296. *A. (Ph.) heteroclitus*, Fr. 5
297. A. (Ph.) comosus, *Fr.* 6
298. A. (Ph.) squarrosus, *Müll.*; 7
var. Mülleri.
299. A. (Ph.) aurivellus, *Batsch.* 8
300. A. (Ph.) adiposus, *Fr.* 9
301. *A. (Ph.) spectabilis*, Fr. 300
302. A. (Ph.) flammans, *Fr.* 1
303. *A. (Ph.) Junonius*, Fr. 2
304. A. (Ph.) mutabilis, *Schæff.* 3
305. A. (Ph.) marginatus, *Batsch.* 304
*** Muscigenei.
306. A. (Ph.) pumilis, *Fr.* 5
307. A. (Ph.) Mycenoides, *Fr.* 6
308. A. (Ph.) Leveillianus, *D. and M.* 7
Subgenus 20. *Hebeloma*, Fr.
309. *A. (Heb.) punctatus*, Fr. 8
310. *A. (Heb.) versipellis*, Fr. 9
311. *A. (Heb.) mesophæus*, Pers. 310
312. *A. (Heb.) sinapizans*, Fr. 1
313. A. (Heb.) crustuliniformis, *Bull.* 2
314. *A. (Heb.) fastibilis*, Fr. 3
315. A. (Heb.) testaceus, *Batsch.* 4
316. A. (Heb.) longicaudus, *P.* 5
(*Inocybe.*)
* Squarrosi.
317. A. (Heb.) relicinus, *Fr.* 6
318. A. (Heb.) flocculentus, *Poll.* 7
319. A. (Heb.) plumosus, *Bolt.* 8
** Laceri.
320. A. (Heb.) pyriodorus, *Pers.* 9
321. A. (Heb.) scaber, *Müll.* 320
322. A. (Heb.) lacerus, *Fr.* 1
323. A. (Heb.) obscurus, *P.* 2
324. A. (Heb.) flocculosus, *Berk.* 3
325. A. (Heb.) Hookeri, *Klotzsch.* 4
326. *A. (Heb.) deglubens*, Fr. 5
*** Rimosi.
327. A. (Heb.) fibrosus, *Sow.* 6
328. A. (Heb.) fastigiatus, *Schæff.* 7
329. A. (Heb.) Curreyi, *Berk.* 8
330. *A. (Heb.) euthelus*, B. and Br. 9
331. A. (Heb.) rimosus, *Bull.* 330
332. A. (Heb.) auricomus, *Batsch.* 1
333. A. (Heb.) trechisporus, *Berk.* 2
334. *A. (Heb.) hiulcus*, Fr. 3
335. A. (Heb.) lucifugus, *Fr.* 4
336. A. (Heb.) sindonius, *Fr.* 5
337. A. (Heb.) geophyllus, *Sowb.* 6
338. *A. (Heb.) vatricosus*, Fr. 7
Subgenus 21. *Flammula*, Fr.
* Heterogenei.
339. A. (Fl.) helomorphus, *Secr.* 8
340. A. (Fl.) scambus, *Fr.* 9

341. *A. (Fl.) floccifer*, Berk. 340
** Lubrici.
342. A. (Fl.) lentus, *Pers.* 1
343. *A. (Fl.) gummosus*, Lasch. 2
344. *A. (Fl.) spumosus*, Fr. 3
345. *A. (Fl.) carbonarius*, Fr. 4
*** Udi.
346. A. (Fl.) flavidus, *Schæff.* 5
347. A. (Fl.) inopus, *Fr.* 6
**** Sapinei.
348. A. (Fl.) hybridus, *Swartz.* 7
349. *A. (Fl.) decipiens*, W. Sm. 8
350. *A. (Fl.) sapineus*, Fr. 9
351. *A. (Fl.) picreus*, Fr. 350
352. *A. (Fl.) filiceus*, Cooke. 1

Subgenus 22. *Crepidotus*, Fr.

353. A. (Cr.) alveolus, *Lasch.* 2
354. A. (Cr.) mollis, *Schæff.* 3
355. A. (Cr.) haustellaris, *Fr.* 4
356. A. (Cr.) rubi, *Berk.* 5
357. A. (Cr.) chimonophilus, *B. and Br.* 6
358. *A. (Cr.) pezizoides*, Nees. 7

Subgenus 23. *Naucoria*, Fr.

* Gymnoti.
359. A. (Nau.) cucumis, *Pers.* 8
360. A. (Nau.) centunculus, *Fr.* 9
361. A. (Nau.) horizontalis, *Bull.* 360
362. A. (Nau.) melinoides, *Fr.* 1
363. A. (Nau.) nuceus, *Bolt.* 2
364. *A. (Nau.) sideroides*, Bull. 3
** Phæoti.
365. A. (Nau.) vervaeti, *Fr.* 4
366. A. (Nau.) pediades, *Fr.* 5
367. A. (Nau.) semiorbicularis, *Bull.* 6
368. *A. (Nau.) sobrius*, Fr. 7
*** Lepidoti.
369. *A. (Nau.) escharoides*, Fr. 8
370. *A. (Nau.) conspersus*, Pers. 9
371. A. (Nau.) erinaceus, *Fr.* 370
372. A. (Nau.) siparius, *Fr.* 1
373. *A. (Nau.) carpophilus*, Fr. 2

Subgenus 24. *Galera*, Fr.

* Pluteotropi.
374. A. (Ga.) reticulatus, *P.* 3
375. *A. (Ga.) aleuriatus*, Fr. 4
376. *A. (Ga.) pilipes*, Sow.
** Polytropi.
377. A. (Ga.) ovalis, *Fr.* 5
*** Teneri.
378. A. (Ga.) lateritius, *Batt.* 6
379. A. (Ga.) tener, *Schæff.* 7
380. *A. (Ga.) antipus*, Fr. 8
381. A. (Ga.) confertus, *Bolt.* 9
382. A. (Ga.) sparteus, *Fr.* 380
**** Hypnophilæ.
383. A. (Ga.) embolus, *Fr.* 1
384. A. (Ga.) hypnorum, *Batsch.* 2
385. *A. (Ga.) sphagnorum*, Pers. 3
***** Eriodermei.
386. A. (Ga.) mycenopsis, *Fr.* 4
387. *A. (Ga.) paludosus*, Fr. 5

Subgenus 25. *Tubaria*, subgen. nov.

388. A. (Tu.) inquilinus, *Fr.* 6
389. A. (Tu.) furfuraceus, *P.* 7
390. A. (Tu.) autochthonus, *B. and Br.* 8

Series IV. PRATELLÆ, *Fr.*

Subgenus 26. *Psalliota*, Fr.

391. *A. (Ps.) elvensis*, Berk. 394
392. A. (Ps.) arvensis, *Schæff.*; var. angustus. 389
393. A. (Ps.) campestris. 390
Var. pratensis, *Vitt.*
villaticus, *Brond.*
silvicola, *Vitt.*
The Cultivated form. { hortensis.
elongatus.
Buchanani.
vaporarius, *Otto.*
rufescens.
394. A. (Ps.) silvaticus, *Schæff.* 1
395. A. (Ps.) versicolor, *With.* 4

Subgenus 27. *Pilosace*, Fr. (unrepresented).

Subgenus 28. *Stropharia*, Fr.

* Viscipellis.
396. A. (Str.) æruginosus, *Curt.* 5
397. A. (Str.) albocyaneus, *Desm.* 6
398. *A. (Str.) obturatus*, Lasch. 7
399. A. (Str.) melaspermus, *Bull.* 8
400. A. (Str.) squamosus, *Fr.* 9

401. A. (Str.) stercorarius, *Fr.* 400
402. A. (Str.) semiglobatus, *Batsch.* 1
403. A. (Str.) Jerdoni, *Berk.* 393.

Subgenus 29. *Hypholoma*, Fr.

* Fasciculares.

404. A. (Hyp.) sublateritius, *Fr.* 402
405. *A. (Hyp.) capnoides*, Fr. 3
406. *A. (Hyp.) epixanthus*, Fr. 4
407. A. (Hyp.) fascicularis, *Huds.* 5
408. A. (Hyp.) dispersus, *Fr.* 6

** Velutini.

409. A. (Hyp.) lacrymabundus, *Bull.* 7
410. A. (Hyp.) velutinus, *P.*; var. leiocephalus. 8

*** Appendiculati.

411. A. (Hyp.) Candollianus, *Fr.* 9
412. A. (Hyp.) lanaripes, *Cooke.* 410
413. A. (Hyp.) appendiculatus, *Bull.* 1
414. *A. (Hyp.) egenulus*, Berk. 2
415. *A. (Hyp.) hydrophilus*, Bull. 3

Subgenus 30. *Psilocybe*, Fr.

* Tenaces.

416. A. (Psi.) semilanceatus, *Fr.* 7

** Fragiles.

417. A. (Psi.) spadiceus, *Schæff.* 8
418. A. (Psi.) cernuus, *Müll.* 9
419. *A. (Psi.) clivensis*, Berk. 420
420. A. (Psi.) Fœnisecii, *P.* 1
421. *A. (Psi.) comptulus*, Berk. and Br. 6/5
422. A. (Psi.) areolatus, *Klotzsch.* 4

Subgenus 31. *Psathyra*, Fr.

423. A. (Psa.) conopilus, *P.* 422
424. *A. (Psa.) mastiger*, B. and Br. 3
425. A. (Psa.) corrugis, *P.*; *b.* gracilis, *Fr.* 4
426. A. (Psa.) bifrons, *Berk.* 5
427. A. (Psa.) spadiceo-griseus, *Schæff.* 6
428. *A. (Psa.) obtusatus*, Fr. 7
429. A. (Psa.) fibrillosus, *P.* 8
430. *A. (Psa.) pennatus*, Fr. 430
431. *A. (Psa.) utricæcola*, B. and Br. 4
432. A. (Psa.) gossypinus, *Fr.* 431
433. *A. (Psa.) semivestitus*, B. and Br. 2
434. *A. (Psa.) Gordoni*, Berk. 433.

Subgenus 32. *Deconica*, subgen. nov.

435. A. (Dec.) coprophilus, *Bull.* 4
436. A. (Dec.) bullaceus, *Bull.* 5
437. A. (Dec.) physaloides, *Bull.* 6

Series V. Coprinarii, *Fr.*

Subgenus 33. *Panæolus*, Fr.

438. A. (Pan.) separatus, *L.* 7
439. *A. (Pan.) leucophanes*, Berk. and Br. 8
440. A. (Pan.) fimiputris, *Bull.* 9
441. A. (Pan.) phalænarum, *Fr.* 440
442. A. (Pan.) retirugis, *Batsch.* 1
443. A. (Pan.) campanulatus, *L.* 2
444. A. (Pan.) papilionaceus, *Bull.* 3
445. A. *(Pan.) cinctulus*, Bolt. 4
446. *A. (Pan.) subbalteatus*, Berk. and Br. 5
447. A. (Pan.) fimicola, *Fr.* 6

Subgenus 34. *Psathyrella*, Fr.

448. A. (Psa.) gracilis, *Fr.* 7
449. A. (Psa.) hiascens, *Fr.* 8
450. A. (Psa.) aratus, *Berk.* 9
451. *A. (Psa.) pronus*, Fr. 450
452. A. (Psa.) atomatus, *Fr.* 1
453. A. (Psa.) disseminatus, *P.* 2

Genus II. COPRINUS, *Fr.*

* Pelliculosi.

454. C. comatus, *Fr.* 453
455. *C. ovatus*, Fr. 4
456. C. sterquilinus, *Fr.* 5
457. C. atramentarius, *Fr.* 6
458. C. fuscescens, *Fr.* 7
459. C. picaceus, *Fr.* 8
460. C. aphthosus, *Fr.* 9
461. *C. similis*, B. and Br. 460
462. *C. flocculosus*, DC. 1
463. C. extinctorius, *Fr.* 2
464. C. fimetarius, *L.* 3
465. C. tomentosus, *Fr.* 4
466. C. niveus, *Fr.* 5
467. C. micaceus, *Fr.* 6
468. *C. aratus*, Berk. and Br. 7
469. C. radians, *Fr.* 8

470. C. deliquescens, *Fr.* 409
** Veliformes.
471. C. Hendersonii, *Fr.* 470
472. C. macrocephalus, *Berk.* /
473. C. lagopus, *Fr.* 2
474. C. nychthemerus, *Fr.* 3
475. C. radiatus, *Fr.* 4
476. C. domesticus, *Fr.* 5
477. C. ephemerus, *Fr.* 6
478. C. plicatilis, *Fr.* 7
479. C. Spraguei, *B. and C.* 8
480. C. hemerobius, *Fr.* 9
481. *C. filiformis*, Berk. and Br. 480

Genus III. BOLBITIUS, *Fr.*

482. B. Boltonii, *Fr.* /
483. B. fragilis, *Fr.* 2
484. B. titubans, *Fr.* 3
485. B. tener, *B.* 5.
486. *B. apicalis*, W. Sm. 4

Genus IV. CORTINARIUS, *Fr.*

Subgenus 1. *Phlegmacium*, Fr.
487. C. (Phl.) caperatus, *Fr.* 6
488. C. (Phl.) varius, *Fr.* 7
489. C. (Phl.) cyanipes, *Fr.* 8
490. *C. (Phl.) russus*, Fr. 9
491. C. (Phl.) anfractus, *Fr.* 490
492. C. (Phl.) multiformis, *Fr.* /
493. C. (Phl.) glaucopus, *Fr.* 2
494. C. (Phl.) callochrous, *Fr.* 3
495. C. (Phl.) cærulescens, *Fr.* 4
496. C. (Phl.) purpurascens, *Fr.* 5
497. *C. (Phl.) dibaphus*, Fr. 6
498. C. (Phl.) turbinatus, *Fr.* 7
499. *C. (Phl.) fulgens*, Fr. 8
500. C. (Phl.) prasinus, *Fr.* 509
501. C. (Phl.) scaurus, *Fr.* 499
Subgenus 2. *Myxacium*, Fr.
502. C. (Myx.) collinatus, *Fr.* 501
503. C. (Myx.) elatior, *Fr.* 2
504. C. (Myx.) livido-ochraceus, *Fr.* [illegible]
505. *C. (Myx.) stillatitius*, Fr. 3
Subgenus 3. *Inoloma*, Fr.
506. C. (In.) violaceus, *Fr.* 5
507. *C. (In.) camphoratus*, Fr. 6
508. C. (In.) callisteus, *Fr.* 507
509. C. (In.) Bulliardi, *Fr.* 8
510. C. (In.) bolaris, *Fr.* 9
511. C. (In.) pholideus, *Fr.* 510
512. C. (In.) sublanatus, *Fr.* /
513. C. (In.) arenatus, *P.* 2
Subgenus 4. *Dermocybe*, Fr.
514. C. (Der.) ochroleucus, *Fr.* 3
515. C. (Der.) tabularis, *Fr.* 4
516. C. (Der.) diabolicus, *Fr.* 5
517. C. (Der.) caninus, *Fr.* 6
518. C. (Der.) anomalus, *Fr.* 7
519. C. (Der.) spilomeus, *Fr.* 8
520. C. (Der.) sanguineus, *Fr.* 9
521. C. (Der.) cinnamomeus, *Fr.* 520
522. C. (Der.) uliginosus, *Berk.* /
523. C. (Der.) raphanoides, *Fr.* 2
Subgenus 5. *Telamonia*, Fr.
524. C. (Tel.) bulbosus, *Fr.* 3
525. C. (Tel.) torvus, *Fr.* 4
526. C. (Tel.) evernius, *Fr.* 5
527. C. (Tel.) armillatus, *Fr.* 6
528. C. (Tel.) limonius, *Fr.* 7
529. C. (Tel.) brunneus, *Fr.* ×
530. C. (Tel.) hinnuleus, *Fr.* 8
531. *C. (Tel.) helvelloides*, Fr. 530
532. C. (Tel.) periscelis, *Weinm.* /
533. C. (Tel.) psammocephalus, *Fr.* 2
534. C. (Tel.) ileopodius, *Fr.* 3
535. *C. (Tel.) hemitrichus*, Fr. 4
Subgenus 6. *Hygrocybe*, Fr.
536. C. (Hy.) armeniaceus, *Fr.* 5
537. C. (Hy.) dilutus, *Fr.* 6
538. C. (Hy.) castaneus, *Fr.* 7
539. *C. (Hy.) rigens*, Fr. 8
540. C. (Hy.) leucopus, *Fr.* 540
541. C. (Hy.) Reedii, *Berk.* 538
542. *C. (Hy.) decipiens*, Fr. 541
543. C. (Hy.) acutus, *Fr.* 2
544. *C. (Hy.) Junghuhnii*, Fr. 3

Genus V. LEPISTA, *gen. nov.*

545. L. nuda, *W. Sm.* 4
546. L. cinerascens, *W. Sm.* 5
547. L. personata, *W. Sm.* 6

T. brunneus is not in Cooke; but T. gentilis is. the former is 153 Fr. Species. 298 & the latter is 149. Fr. p 297
~ Wm.

Genus VI. PAXILLUS, *Fr.*

548. P. involutus, *Fr.* 547
549. P. atro-tomentosus, *Fr.* 8
550. P. panuoides, *Fr.* 9

Genus VII. HYGROPHORUS, *Fr.*

* Limacium.

551. H. chrysodon, *Fr.* 550
552. H. eburneus, *Fr.* 1
553. H. cossus, *Fr.* 2
554. H. cerasinus, *B.* 3
555. H. aromaticus, *B.* 4
556. H. mesotephrus, *B. and Br.* 5
557. *H. arbustivus*, Fr. 6
558. H. hypothejus, *Fr.* 7
559. H. olivaceo-albus, *Fr.* 8
560. *H. limacinus*, Fr. ×

** Camarophyllus.

561. H. leporinus, *Fr.* 9
562. H. pratensis, *Fr.* 560
563. H. virgineus, *Fr.* 1
564. H. niveus, *Fr.* 2
565. H. distans, *Berk.* 4
566. H. russo-coriaceus, *B. and Mill.* 3
567. H. ovinus, *Fr.* 5

*** Hygrocybe.

568. H. Colemannianus, *Blox.* 6
569. H. lætus, *Fr.* 7
570. H. ceraceus, *Fr.* 8
571. H. coccineus, *Fr.* 9
572. H. miniatus, *Fr.* 570
573. H. puniceus, *Fr.* 1
574. H. obrusseus, *Fr.* 2
575. H. conicus, *Fr.* 3
576. *H. chlorophanus*, Fr. 4
577. H. psittacinus, *Fr.* 5
578. H. calyptræformis, *B. and Br.* 6
579. H. unguinosus, *Fr.* 7
580. H. murinaceus, *Fr.* 8

Genus VIII. GOMPHIDIUS, *Fr.*

581. G. glutinosus, *Fr.* 9
β. roseus.
582. G. viscidus, *Fr.* 580
583. G. stillatus, *Strauss.* 1

Genus IX. LACTARIUS, *Fr.*

* Piperites.

584. L. torminosus, *Fr.* 582
585. L. cilicioides, *Fr.* 3
586. L. turpis, *Fr.* 4
587. *L. controversus*, Pers. 5
588. L. pubescens, *Schrad.* 6

** Limacini.

589. L. insulsus, *Fr.* 7
590. L. zonarius, *Fr.* 8
591. L. blennius, *Fr.* 9
592. L. hysginus, *Fr.* 590
593. *L. trivialis*, Fr. 1
594. L. circellatus, *Fr.* 2
595. L. uvidus, *Fr.* 3

*** Piperati.

596. L. pyrogalus, *Bull.* 4
597. L. plumbeus, *Fr.* 5
598. L. acris, *Fr.* 6
599. L. chrysorrhœus, *Fr.* 7
600. L. piperatus, *L.* 8
601. L. vellereus, *Fr.*, var. exsuccus, *Otto.* 9

**** Dapetes.

602. L. deliciosus, *L.* 600

***** Russulares.

603. L. pallidus, *Fr.* 1
604. L. quietus, *Fr.* 2
605. L. theiogalus, *Fr.* 3
606. *L. cyathula*, Fr. 4
607. L. rufus, *Scop.* 5
608. L. glyciosmus, *Fr.* 6
609. L. fuliginosus, *Fr.* 8
610. L. volemum, *Fr.* 9
611. L. serifluus, *Fr.* 7
612. L. mitissimus, *Fr.* 610
613. L. subdulcis, *Bull.* 1
614. L. camphoratus, *Fr.* 2

Genus X. RUSSULA, *Fr.*

* Compactæ.

615. R. nigricans, *Fr.* 3
616. R. adusta, *Fr.* 4
617. R. delica, *Fr.* 5

** Furcatæ.

618. R. furcata, *Fr.* 6

× Cooke does not give this species. wm -

619. R. sanguinea, *Fr.* 617
620. R. rosacea, *Fr.* 8
621. R. sardonia, *Fr.* 9
622. R. depallens, *Fr.* 620

*** Rigidæ.
623. *R. lactea*, Fr. 1
624. R. virescens, *Fr.* 2
625. R. lepida, *Fr.* 3
626. R. rubra, *Fr.* 4

**** Heterophyllæ.
627. R. vesca, *Fr.* 5
628. *R. cyanoxantha*, Fr. 6
629. R. heterophylla, *Fr.* 7
630. R. fœtens, *Fr.* 8

***** Fragiles.
631. R. emetica, *Fr.* 9
632. R. ochroleuca, *Fr.* 630
633. R. fragilis, *Fr.* 1
634. R. integra, *L.* 2
635. R. decolorans, *Fr.* 3
636. R. aurata, *Fr.* 4
637. *R. veternosa*, Fr. 5
638. R. nitida, *Fr.* 6
639. R. alutacea, *Fr.* 7
640. R. lutea, *Fr.* 8
641. R. vitellina, *Fr.* 9
642. *R. chamæleontina*, Fr. 640

Genus XI. CANTHARELLUS, *Fr.*

* Mesopodes.
643. C. cibarius, *Fr.* 1
644. C. aurantiacus, *Fr.* 2
645. C. Brownii, *B. and Br.* 3
646. C. umbonatus, *P.* 4
647. *C. radicosus*, B. and Br. ×
648. C. tubæformis, *Fr.* 5
649. C. infundibuliformis, *Fr.* 6
β. cinereus, *Fr.* 8

** Pleurotus.
650. C. muscigenus, *Fr.* 9

** Resupinati.
651. C. retirugus, *Fr.* 651
652. C. lobatus, *Fr.* 650.

Genus XII. NYCTALIS, *Fr.*

653. N. asterophora, *Fr.* 2
654. N. parasitica, *Fr.* 3

Genus XIII. MARASMIUS, *Fr.*

1. *Collybiæ.*

* Scortei.
655. M. urens, *Bull.* 654.
656. M. peronatus, *Fr.* 5
657. M. porreus, *Fr.* 6
658. M. oreades, *Bolt.* 7

** Tergini.
659. M. fusco-purpureus, *Fr.* 8
660. M. Wynnei, *B. and Br.* 9
661. *M. terginus*, Fr. 661
662. M. erythropus, *Fr.* 660
663. M. archyropus, *Fr.* 3

*** Calopodes.
664. M. scorodonius, *Fr.* 4
665. M. Vaillantii, *Fr.* 5
666. *M. angulatus*, Pers. 6
667. *M. languidus*, Fr. 7
668. M. fœtidus, *Fr.* 8
669. *M. nigricans*, Berk. ×
670. M. amadelphus, *Fr.* 9
671. M. ramealis, *Fr.* 670
672. M. candidus, *Fr.* +

2. *Mycenæ.*

* Chordales.
673. M. alliaceus, *Fr.* 1
674. *M. caulicinalis*, Fr. 2

** Rotulæ.
675. M. rotula, *Fr.* 3
676. M. graminum, *B. and Br.* 4
677. M. androsaceus, *Fr.* 5
678. M. perforans, *Fr.* 6
679. M. insititius, *Fr.* 7
680. M. Hudsoni, *Fr.* 8
681. M. epiphyllus, *Fr.* 9
682. M. saccharinus, *Fr.* 680
683. M. spodoleucus, *B. and Br.* 1

Genus XIV. LENTINUS, *Fr.*

* Squamosi.
684. L. tigrinus, *Fr.* 2
685. L. Dunalii, *Fr.* 3
686. L. lepideus, *Fr.* 4
687. L. adhærens, *Fr.* 5

** Cochleati.
688. L. cochleatus, *Fr.* 6

× Cooke does not give this
+ — do — do.

*** Subsessiles.

689. L. vulpinus, *Fr.* 687
690. *L. fimbriatus*, Curr. 8
691. L. flabelliformis, *Bolt.* 9

Genus XV. PANUS, *Fr.*

692. P. torulosus, *Fr.* 690
693. P. conchatus, *Fr.* 1
694. P. stipticus, *Fr.* 2

Genus XVI. XEROTUS, *Fr.*

695. X. degener, *Fr.* 3

Genus XVII. TROGIA, *Fr.*

696. T. crispa, *Fr.* 694.

Genus XVIII. SCHIZOPHYLLUM.

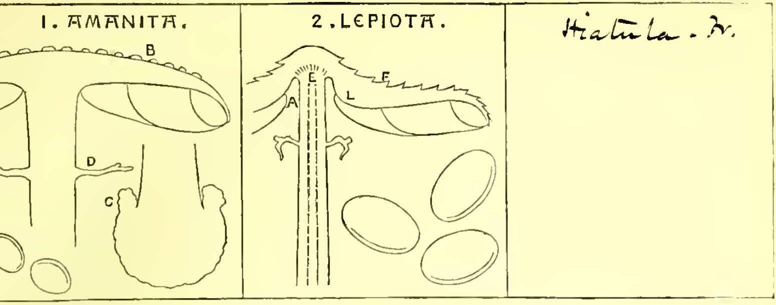
697. S. commune, *Fr.* 695

Genus XIX. LENZITES, *Fr.*

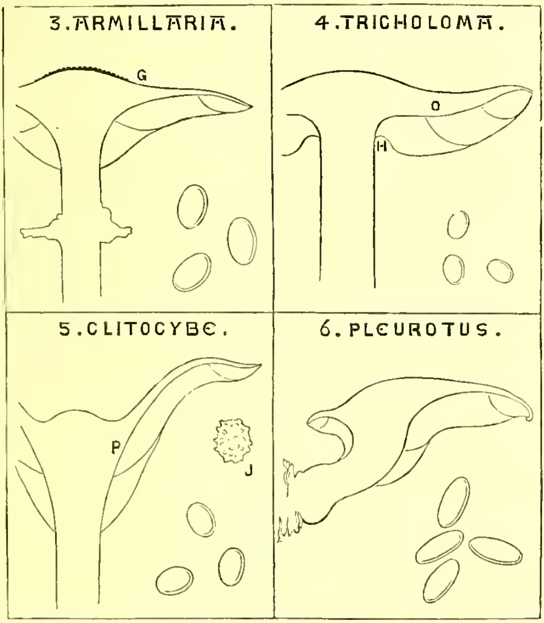
698. L. betulina, *Fr.* 696
699. L. flaccida, *Fr.* 697
700. L. sepiaria, *Fr.* 698
701. L. abietina, *Fr.* 699.

SERIES I. LEUCOSPORI.—SPORES WHITE.

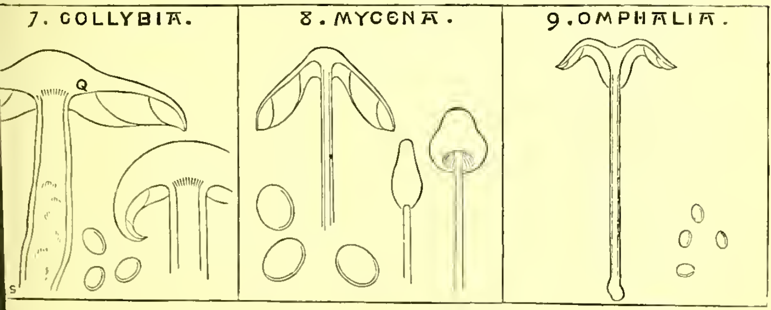
* Hymenophorum distinct from the fleshy Stem.



** Hymenophorum confluent and homogeneous with the fleshy Stem.



*** Hymenophorum confluent with, but heterogeneous from the cartilaginous Stem.



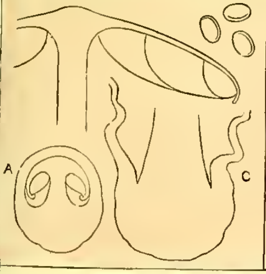
SUBGENERA OF AGARICUS.

PLATE II.

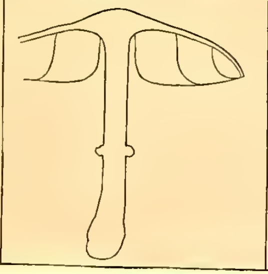
SERIES 2. HYPORHODII.—SPORES PINK.

* Hymenophorum distinct from the fleshy Stem.

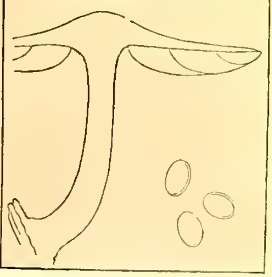
10. VOLVARIA.



(11. CHAMÆOTA.)

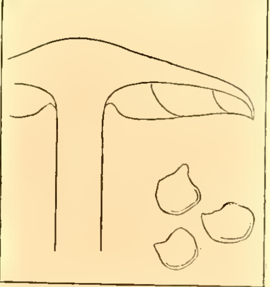


12. PLUTEUS.

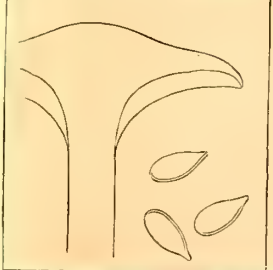


** Hymenophorum confluent and homogeneous with the fleshy Stem.

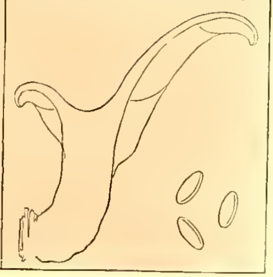
13. ENTOLOMA.



14. CLITOPILUS.

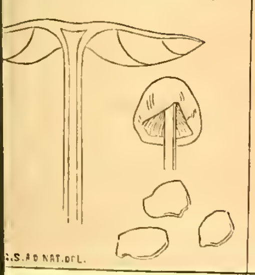


(15. CLAUDOPUS.)

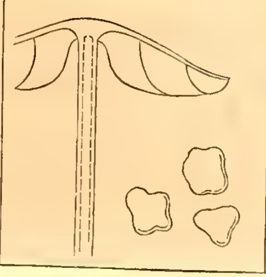


*** Hymenophorum confluent with, but heterogeneous from the cartilaginous Stem.

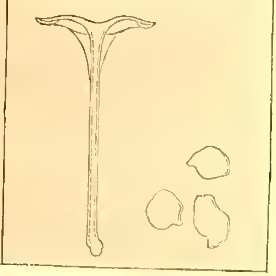
16. LEPTONIA.



17. NOLANEA.



18. ECCILIA.



SUBGENERA OF AGARICUS.

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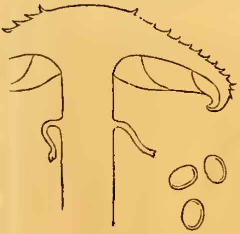
SERIES 3. DERMINI.—SPORES BROWN.

* Hymenophorum distinct from the fleshy Stem.

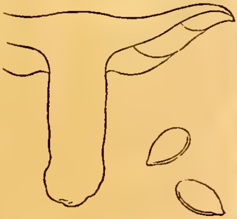
Togaria. Fr.

** Hymenophorum confluent and homogeneous with the fleshy Stem.

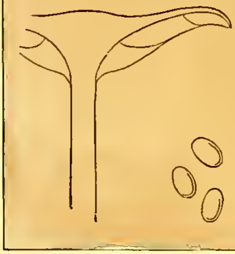
19. PHOLIOTA.



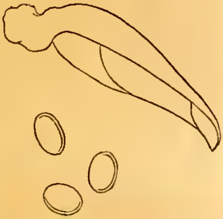
20. HEBELOMA. (INOCYBE)



21. FLAMMULA.

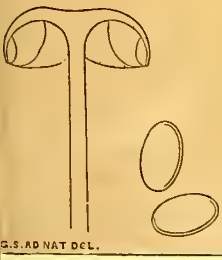


22. CREPIDOTUS.



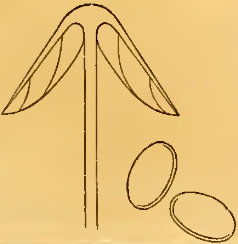
*** Hymenophorum confluent with, but heterogeneous from the cartilaginous Stem.

23. NAUCORIA.

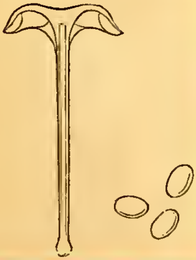


G.S. AD NAT DEL.

24. GALERA.



(25. TUBARIA.)



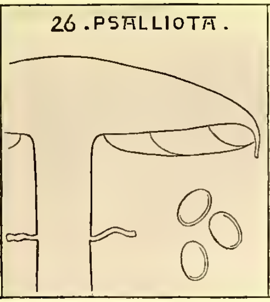
SUBGENERA OF AGARICUS.

TK

PLATE IV.

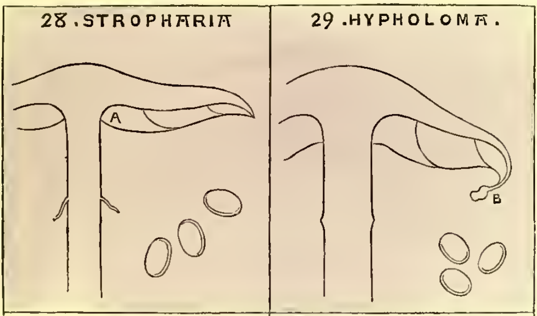
SERIES 4. PRATELLÆ.—SPORES PURPLE.

* Hymenophorum distinct from the fleshy Stem.

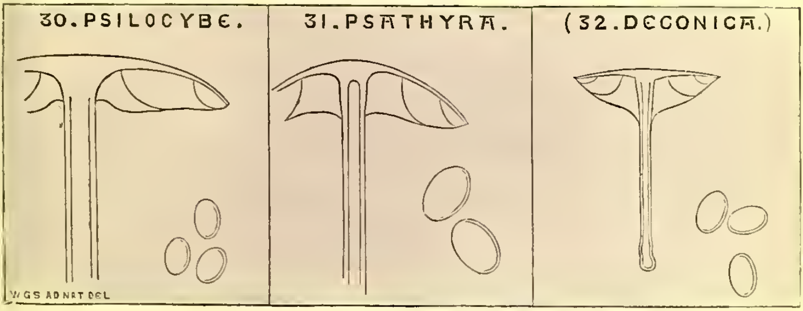


27. PILOSACE.
NOT BRITISH.

** Hymenophorum confluent and homogeneous with the fleshy Stem.



*** Hymenophorum confluent with, but heterogeneous from the cartilaginous Stem.

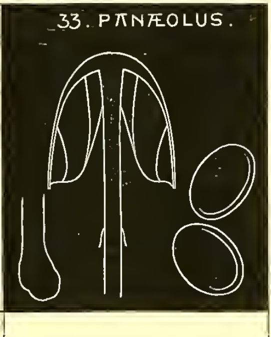


SUBGENERA OF AGARICUS.

SERIES 5. COPRINARII.—SPORES BLACK.

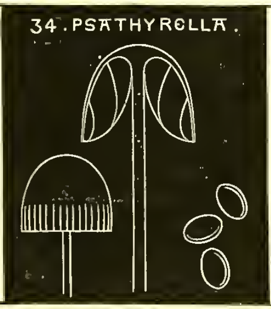
* Hymenophorum distinct from the fleshy Stem.

** Hymenophorum confluent and homogeneous with the fleshy Stem.



33. PANÆOLUS.

*** Hymenophorum confluent with, but heterogeneous from the cartilaginous Stem.



34. PSATHYRELLA.

.G.S. AD. NAT. DEL.

SUBGENERA OF AGARICUS.

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JOURNAL OF BOTANY.—PLATE VI.

Tabular View of the Subgenera of Agaricus.

	I. Leucospori.	II. Hypo-rhodii.	III. Dermini.	IV. Pratellæ.	V. Coprinarii.
* Hymenophorum distinct from the fleshy stem.	1. Amanita.	10. Volvaria.			
	2. Lepiota.	11. *Chamæota.*		26. Psalliota.	
		12. Pluteus.		27. Pilosace.	
** Hymenophorum confluent and homogeneous with the fleshy stem.	3. Armillaria.		19. Pholiota.	28. Stropharia.	
	4. Tricholoma.	13. Entoloma.	20. Hebeloma.	29. Hypholoma.	33. Panæolus.
	5. Clitocybe.	14. Clitopilus.	21. Flammula.		
	6. Pleurotus.	15. *Claudopus.*	22. Crepidotus.		
*** Hymenophorum confluent with, but heterogeneous from the cartilaginous stem.	7. Collybia.	16. Leptonia.	23. Naucoria.	30. Psilocybe.	
	8. Mycena.	17. Nolanea.	24. Galera.	31. Psathyra.	34. Psathyrella.
	9. Omphalia.	18. Eccilia.	25. *Tubaria.*	32. *Deconica.*	

(*Proposed new subgenera are in italics.*)

[illegible]